

The Commonwealth of Massachusetts

TENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1929

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the tenth annual report of the Department of Public Works for the year ending Nov. 30, 1929.

The organization of the Department, as defined in chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, WILLIAM F. WILLIAMS¹ and FRANK E. LYMAN.²

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, FRANK E. LYMAN² and HERMAN A. MACDONALD.³

The Department has continued its policies regarding highway improvements in selecting the types of highways and pavements best adapted to the needs of traffic and materials available. The mileage of new State highways laid out and constructed, and of State highways widened and reconstructed amounted to 120 miles. In cooperation with the cities, towns and counties, under the provisions of chapter 90, General Laws, the Department has also constructed 160 miles of highways. The total mileage (280 miles) constructed during the year exceeded that of the previous year, and likewise, the expenditures in 1929 were \$1,500,000 in excess of 1928. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and improvement of about 8,200 miles of public ways, exclusive of State highways, in about 170 towns.

Recognizing the need for wider and heavier types of surface, the Department has included in its work of the year a considerable mileage of roadways having a travelled width of thirty or forty feet.

The Newburyport Turnpike, a State highway, Route 1, one of the important projects, will be greatly improved by the completion of contracts awarded for the widening of the travelled way to thirty feet, affording three 10-foot lanes for traffic for a distance of seven miles extending northerly from Lynnfield, which was the northerly end of the widening completed last year, to the town of Ipswich. That portion of the turnpike built last year in Malden, Melrose and entering Saugus, is 40 feet in width. That portion of this route in Malden, southerly from the end of the turnpike in Malden is also under reconstruction, 44 feet in width.

The Mohawk Trail, Route 2, has been greatly improved by the completion of the reconstruction of about 16 miles from Charlemon't to North Adams, the surface of which is bituminous macadam of a coarse texture, twenty-four feet in width, in extension of the work completed last year.

One interesting new State highway is the road in Provincetown and on the Province Lands, and extension to Race Point Road which opens up a beach heretofore inaccessible, said to be one of the finest on the coast.

Other prominent projects were the Milford-Upton reconstruction, the Lanesborough cut-off, the Falmouth cut-off and the Norton-Mansfield-Attleboro construction and reconstruction.

The elimination of two extremely dangerous underpasses at Palmer, where the State highway passed under the tracks of the Boston and Albany Railroad was effected by the construction of a by-pass. Also a cut-off in Lanesborough has eliminated, for through traffic, one grade crossing and one dangerous railroad bridge. A total of six grade crossings have been eliminated during the year.

¹ Resigned Dec. 26, 1928.

² Appointed Commissioner of Public Works Dec. 26, 1928.

³ Appointed Dec. 29, 1923.

Several cut-offs have been completed, as for example, the Templeton cut-off, on Route 2, extending from the State highway in Gardner, thence through Templeton to a connection with the State highway at Phillipston. The southerly route from Worcester to Springfield via Charlton, Sturbridge and Brimfield has been greatly improved by construction of new State highway and the branch from Sturbridge through Holland on the Boston-Hartford-New York route.

Among the prominent cooperative projects were the following:—the reconstruction of a bridge and highway connecting Shawsheen Village with the town of Andover proper; and the Westfield-Holyoke work.

The construction of the Alewife Brook parkway extension has been largely completed, providing a 40-foot bituminous macadam roadway, with two truss and girder bridges to carry this road over the tracks of the Boston and Maine Railroad. Upon completion, portions of this road will become part of the boulevard system of the Metropolitan District and the balance will remain as city streets of Cambridge.

In traffic matters, the Department, under the provisions of chapter 357, Acts of 1928, has issued Rules and Regulations for traffic on State highways and through ways so designated by the Department and also issued Bulletin No. 2, a Standard Code for Traffic Control Signal Installation and Operation, applicable to all highways within the Commonwealth. Numerous additional direction and warning signs as well as route numbers have been erected on the State highways and other important routes.

The outstanding waterways projects were the dredging of Town River, Quincy, Annisquam River, Gloucester, and Scituate Harbor, Scituate. Under legislative authorization the Department moved two hangars erected by the Commonwealth to new locations at the Boston Airport.

The engineering and clerical staff of the Department and the Registry of Motor Vehicles was as follows:—

Chief Engineer, ARTHUR W. DEAN.¹

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND C. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:

District No. 1, GEORGE A. CURTIS,—Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS,—Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON,—Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN,—Middlesex County.

District No. 5, JAMES E. LAWRENCE,—Essex and Suffolk Counties.

District No. 6, H. O. PARKER,—Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN,—Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor,—JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor, FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, GEORGE A. PARKER.

Deputy Registrar, ANTHONY A. BONZAGNI.

¹ Appointed Chief Engineer Jan. 8, 1929 (formerly Chief Highway Engineer).

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,
Commissioner of Public Works.

Dec. 1, 1929.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

The construction of a bridge over the Mystic River in the city of Medford and related improvements. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 35, Resolves of 1928. (Senate 4 of 1929.)

The taking over and maintenance by the Commonwealth of certain bridges on main through routes of travel. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 38, Resolves of 1928. (Senate 10 of 1929.)

Protecting the cities and towns in the Hoosac and Connecticut River valleys from flood damage. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 28, Resolves of 1928. (House 111 of 1929.)

A boulevard from Stoneham to the Quannapowitt Parkway in Wakefield. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 42, Resolves of 1928. (House 149 of 1929.)

The rebuilding of Baker and Ocean avenues in the city of Revere. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 45, Resolves of 1928. (House 190 of 1929.)

The improvement of Broadway in Malden and certain ways in Braintree, Weymouth and Hingham. Report made Dec. 1, 1928, under chapter 46, Resolves of 1928. (House 211 of 1929.)

A State highway in Revere from Broadway to the Revere Beach Parkway at Revere Street. Report made Dec. 1, 1928, under chapter 55, Resolves of 1928. (House 127 of 1929.)

Acquiring the right of way for public access to Lake Chaubunagungamaug in the town of Webster. Report made Dec. 1, 1928, by the Department of Public Works and the Attorney General, jointly, under chapter 453, Acts of 1923. (House 155 of 1929.)

Reports made by special commissions of which the Commissioner of Public Works was a member.

The lighting of State and other highways and the apportionment of the cost thereof. Report made Dec. 10, 1928, by a Special Commission under chapter 39, Resolves of 1928. (House 132 of 1929.)

Unsanitary conditions in Savin Hill Bay, and the dredging of Commercial Point Channel and of a channel to the Dorchester Yacht Club landing. Report made by a special commission under chapter 39, Resolves of 1928. (House 185 of 1929.)

The advisability of filling in South Bay and part of Fort Point Channel in Boston Harbor. Report made Dec. 24, 1928, by a Special Commission under chapter 23, Resolves of 1927. (House 1010 of 1929.)

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 4, 1928, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. *Certain Contracts Relative to the Construction of Highways.*

The present necessity in the program for the development of the State highways places greater emphasis on the construction of new State Highways, and as pertinent to this need and as a means of expediting the seasonal construction work, it is recommended that the Department of Public Works be author-

ized to make contracts for the construction of State highways in anticipation of appropriations therefor, in the same manner as authorized for the reconstruction of State highways, as provided in section twenty-seven of chapter twenty-nine, General Laws. The suggested amendment and the other laws relating to the construction of State highways provide for the approval of such expenditures by the Governor and Council.

2. *Increasing the Penalty for Operating a Motor Vehicle after Suspension or Revocation of the Registration thereof, or after Suspension or Revocation of a License or Right to Operate Motor Vehicles*

A more effective provision of the law relating to the matter of the operation of motor vehicles after suspension or revocation of registration thereof, or after suspension or revocation of licenses to operate, is deemed to be necessary, and therefore it is recommended that penalty for such offences be appreciably increased by amendment to section twenty-three, chapter ninety, of the General Laws.

3. *Regulating the Drawing of Trailers and Other Vehicles by Motor Vehicles*

One of the most hazardous features of the operation of motor vehicles, with trailers, on the highways, is the use of more than one such trailer. Such combinations of vehicles create another element of uncertainty in the overtaking and passing by other vehicles, and furthermore it is not believed that the highways should become roadways for trains of such vehicles. It is therefore recommended that section nineteen of chapter ninety, General Laws, be amended to prohibit such operation.

4. *Regulating the Cancellation of Motor Vehicle Liability Policies for Failure to Pay any Sum on Account of Premiums*

Experience in connection with the procedure in the matter of the cancellation of motor vehicle liability policies indicates that a modification of section nine of chapter ninety, General Laws, is advisable, in order to regulate the cancellation of such policies for failure to pay any sum on account of premiums.

5. *Including within the Provisions of Motor Vehicle Laws, Excepting Those Requiring Liability Insurance and the Payment of Registration Fees, Certain Vehicles Heretofore Excluded Therefrom*

In order to clarify the law relating to the definition of motor vehicles and to registrations of certain vehicles heretofore excluded from the provisions of the motor vehicle laws, excepting those requiring liability insurance and the payment of registration fees, amendments to various sections of chapter ninety are recommended. These relate particularly to vehicles of the police departments and other municipally owned automobiles, but further provide that they need not be registered or insured, and that they shall display distinctive number plates which shall be furnished and authorized by the Registrar of Motor Vehicles.

6. *Fees for Registration of Certain Motor Vehicles and to Rebates on Account Thereof*

It is deemed advisable to abolish so-called half fees and rebates in connection with the registrations of certain motor vehicles, and an amendment to section two of chapter ninety, General Laws, is accordingly recommended.

7. *Providing for a Reasonable Fee for the Periodic Inspection of Motor Vehicles and Trailers*

The periodic inspection of motor vehicles and trailers for the determination of the condition of equipment is very important, and in order to provide for the successful carrying out of such work it is recommended that a reasonable fee should be provided for, by an amendment to section seven A, of chapter ninety, General Laws, as inserted by chapter two hundred and fifty-two of the Acts of 1929.

APPROPRIATIONS

Chapter 146, Acts of 1929, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows: —

Item	<i>Requirements for Extinguishing the State Debt</i>	
209.	For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million one hundred forty-two thousand seventeen dollars and forty-nine cents, payable from the following accounts and funds in the following amounts: — from receipts from loans for the abolition of grade crossings, the sum of thirty-four thousand dollars; from the Highway Fund, the sum of three hundred sixty-three thousand seventeen dollars and fifty cents; from the balance of the receipts of the sale of the Boston dry dock, two hundred fifty thousand dollars; from the balance of the receipts of the sale of bonds for the defence of the Commonwealth, sixty-five thousand six hundred ten dollars and thirty-six cents; and the remainder from the general fund	\$1,142,017 49

	<i>Interest on the Public Debt</i>	
210.	For the payment of interest on the direct debt and temporary loans of the commonwealth, a sum not exceeding one million dollars, of which sum three hundred sixty-two thousand six hundred fifty-one dollars and twenty-five cents shall be paid from the Highway Fund	1,000,000 00

	<i>Service of the Department of Banking and Insurance</i>	
	<i>Division of Insurance:</i>	
288.	For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred sixty thousand dollars, of which sum not more than twenty-eight thousand dollars may be charged to the Highway Fund	160,000 00

	<i>Service of the Department of Public Works</i>	
	The appropriations made in the following three items are to be paid two-thirds from the Highway Fund and one-third from the Port of Boston receipts:	
628.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars	19,500 00
629.	For personal services of clerks and assistants to the commissioner, a sum not exceeding ten thousand eight hundred dollars	10,800 00
630.	For travelling expenses of the commissioners, a sum not exceeding four thousand dollars	4,000 00

	<i>Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):</i>	
631.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and	

Item

	stenographers, a sum not exceeding seventy-eight thousand eight hundred dollars	\$78,800 00
632.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding twelve thousand dollars	12,000 00
633.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding fifteen thousand dollars	15,000 00
634.	For the construction and repair of town and county ways, a sum not exceeding two million dollars	2,000,000 00
635.	For aiding towns in the repair and improvement of public ways, a sum not exceeding nine hundred thousand dollars	900,000 00
636.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, a sum not exceeding six million five hundred thousand dollars	6,500,000 00
637.	For the maintenance and operation of the Newburyport bridge and the Brightman street bridge in Fall River and Somerset, in accordance with the provisions of existing laws, a sum not exceeding eighteen thousand dollars	18,000 00
638.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one million five hundred thousand dollars	1,500,000 00
639.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand five hundred dollars, to be paid from the general fund	15,500 00
Registration of Motor Vehicles:		
640.	For personal services, a sum not exceeding eight hundred eighteen thousand dollars, to be paid from the Highway Fund	818,000 00
641.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred twenty-two thousand dollars, to be paid from the Highway Fund	522,000 00
642.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding twenty-five hundred dollars, to be paid from the Highway Fund	2,500 00
Functions of the department relating to waterways and public lands:		
643.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-two thousand dollars	52,000 00
644.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding three thousand dollars	3,000 00
645.	For the care and maintenance of the province lands and the lands acquired and structures erected by the	

Item

	Provincetown tercentenary commission, a sum not exceeding five thousand dollars	\$5,000 00
646.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tidewaters and great ponds, a sum not exceeding forty thousand dollars	40,000 00
647.	For the improvement, development and protection of rivers and harbors, tidewaters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding one hundred thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered	100,000 00
648.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as amended, a sum not exceeding one thousand dollars	1,000 00
649.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding one thousand dollars	1,000 00
650.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred ten thousand dollars, to be paid from the Port of Boston receipts	110,000 00
651.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the Port of Boston receipts	8,000 00
652.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding seventy thousand dollars, to be paid from the Port of Boston receipts	70,000 00
653.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding five thousand dollars	5,000 00
654.	For the compensation of dumping inspectors, a sum not exceeding five thousand dollars	5,000 00
655.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars	4,000 00
	Specials:	
656.	For dredging channels and filling flats, a sum not exceeding twenty-five thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	25,000 00
657.	For expenses of locating state boundary monuments, a sum not exceeding one thousand dollars	1,000 00

Item

Miscellaneous

The following five items are to be paid from the Highway Fund:

679.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding two hundred thirty-seven thousand six hundred dollars, representing the state's portion or one half of the estimated cost of maintenance	\$237,600 00
680.	For resurfacing of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding fifty thousand dollars, representing the state's portion or one half of the estimated cost of resurfacing	50,000 00
681.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, for the installation of a certain electric lighting system, a sum not exceeding twelve thousand five hundred dollars, representing the state's portion or one half of the estimated cost	12,500 00
682.	For the construction of a certain parkway or boulevard along the southerly side of the Charles river basin, as authorized by chapter three hundred and sixty-five of the acts of nineteen hundred and twenty-six, a sum not exceeding one hundred thousand dollars, representing the state's portion or one half of the estimated cost of construction, the same to be in addition to any amount heretofore appropriated for the purpose	100,000 00
683.	For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding thirty-one hundred dollars	3,100 00

Metropolitan District Commission

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

704.	For maintenance of Wellington bridge, a sum not exceeding ninety-three hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-three	9,300 00
705.	For maintenance of boulevards and parkways, a sum not exceeding two hundred thirty-seven thousand six hundred dollars, the same to be in addition to the amount appropriated in item six hundred and seventy-nine	237,600 00
706.	For resurfacing of boulevards and parkways, a sum not exceeding fifty thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty	50,000 00
707.	For the construction of a certain parkway or boulevard along the southerly side of the Charles river basin, as authorized by chapter three hundred and sixty-five of the acts of nineteen hundred and twenty-six, a sum not exceeding one hundred thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-two, and	

Item

	to be in addition to any amount heretofore appropriated for the purpose	\$100,000 00
708.	For maintenance of boulevards and parkways, for the installation of a certain electric lighting system, a sum not exceeding twelve thousand five hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-one .	12,500 00

Chapter 386, Acts of 1929, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

Service of Special Legislative Investigations

30h.	For expenses of an investigation by an unpaid special commission as to what measures should be taken to promote the abolition of grade crossings in the commonwealth, as authorized by chapter thirty of the resolves of the present year, a sum not exceeding two thousand dollars	2,000 00
30l.	For expenses of an investigation by an unpaid special commission relative to compulsory automobile liability insurance, as authorized by chapter forty of the resolves of the present year, a sum not exceeding ten thousand dollars	10,000 00
136a.	For expenses to be incurred by the department of public works in moving and relocating, upon such site as is fixed by the city of Boston, the hangars and other buildings located at the airport in East Boston and now utilized by the aviation units of the Massachusetts National Guard, as authorized by chapter twenty-four of the resolves of the present year, a sum not exceeding twenty-two thousand dollars	22,000 00

Service of the Department of Public Works

Functions of the department relating to highways:

634.	For the construction and repair of town and county ways, a sum not exceeding twenty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund	25,000 00
639a.	For the construction and reconstruction of certain highways, as authorized by chapter three hundred and sixty-four of the acts of the present year, a sum not exceeding forty-five thousand nine hundred dollars, to be paid from the Highway Fund	45,900 00

Registration of Motor Vehicles:

640.	For personal services, a sum not exceeding fifteen thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund	15,000 00
641.	For services other than personal, including travelling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding ten thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund	10,000 00

Functions of the department relating to waterways
and public lands:

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| 652. | For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding twenty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the port of Boston receipts . . . | \$20,000 00 |
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Specials:

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| 656a. | For dredging Commercial Point channel, as authorized by chapter three hundred and seventeen of the acts of the present year, a sum not exceeding twenty-eight thousand one hundred and twenty-five dollars, to be paid from the Port of Boston receipts . . . | 28,125 00 |
| 656b. | For further investigation by an unpaid special commission relative to the filling of navigable waters in a part of Fort Point channel and South bay, as authorized by chapter forty-eight of the resolves of the present year, a sum not exceeding seventy-five hundred dollars, one half of which is to be assessed upon the city of Boston . . . | 7,500 00 |

Metropolitan District Commission (Highway Fund)

The following five items are to be paid from the Highway Fund:

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| 681. | For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, for the installation of a certain electric lighting system, a sum not exceeding one thousand dollars, representing the state's portion or one half of the estimated cost, and to be in addition to any amount heretofore appropriated for the purpose . . . | 1,000 00 |
| 683. | For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding sixteen hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . | 1,600 00 |
| 683a. | For certain dredging, to be done by the department of public works, on account of the Old Colony boulevard, as authorized by chapter three hundred and seventeen of the acts of the present year, a sum not exceeding fifty-nine thousand six hundred eighty-seven dollars and fifty cents . . . | 59,687 50 |
| 683b. | For the construction of certain boulevards, as authorized by chapter three hundred and thirty-four of the acts of the present year, a sum not exceeding seventy-nine thousand five hundred dollars . . . | 79,500 00 |
| 683c. | For the taking of certain land and for filling for a certain boulevard in the town of Brookline and the city of Newton, as authorized by chapter three hundred and fifty-eight of the acts of the present year, a sum not exceeding twelve thousand five hundred dollars . . . | 12,500 00 |

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Metropolitan District Commission

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

700a.	For repairs and further shore protection at the Lynn Beach reservation, a sum not exceeding ten thousand dollars, to be assessed upon the metropolitan parks district	\$10,000 00
704.	For maintenance of Wellington bridge, a sum not exceeding forty-eight hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-three and to be in addition to any amount heretofore appropriated for the purpose	4,800 00
706b.	For certain dredging, to be done by the department of public works, on account of the Old Colony boulevard, as authorized by chapter three hundred and seventeen of the acts of the present year, a sum not exceeding fifty-nine thousand six hundred eighty-seven dollars and fifty cents, to be assessed upon the metropolitan parks district and to be in addition to the amount appropriated in item six hundred and eighty-three <i>a</i>	59,687 50
706c.	For the construction of certain boulevards, as authorized by chapter three hundred and thirty-four of the acts of the present year, a sum not exceeding seventy-nine thousand five hundred dollars, to be assessed upon the metropolitan parks district and to be in addition to the amount appropriated in item six hundred and eighty-three <i>b</i>	79,500 00
706d.	For the taking of certain land for filling for a certain boulevard in the town of Brookline and the city of Newton, as authorized by chapter three hundred and fifty-eight of the acts of the present year, a sum not exceeding twelve thousand five hundred dollars, to be assessed upon the metropolitan parks district and to be in addition to the amount appropriated in item six hundred and eighty-three <i>c</i>	12,500 00
706e.	For the construction and reconstruction of certain highways by the department of public works, as authorized by chapter three hundred and sixty-four of the acts of the present year, a sum not exceeding forty-five thousand nine hundred dollars, to be assessed upon the metropolitan parks district and to be in addition to the amount appropriated in item six hundred and thirty-nine <i>a</i>	45,900 00
708.	For maintenance of boulevards and parkways, for the installation of a certain electric lighting system, a sum not exceeding one thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-one	1,000 00
710a.	For an investigation by an unpaid special commission of the general subject of the discharge of sewage into Boston harbor, as authorized by chapter twenty-nine of the resolves of the present year, a sum not exceeding twenty thousand dollars, the cost to be assessed in accordance with said resolve	20,000 00

OTHER MISCELLANEOUS

Service of the Department of Public Works

636. For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, a sum not exceeding thirty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund \$35,000 00

Service of the Metropolitan District Commission (Highway Fund)

- 683d. For certain improvements in the Charles River basin, as authorized by chapter three hundred and seventy-one of the acts of the present year, a sum not exceeding fifty thousand dollars, to be paid from the Highway Fund 50,000 00
- 683e. For certain expenses on account of the construction of the northern artery as finally determined by chapter three hundred and eighty-two of the acts of the present year, a sum not exceeding two hundred sixty-two thousand five hundred dollars, to be paid from the Highway Fund 262,500 00

Metropolitan District Commission

- 706f. For certain improvements in the Charles River basin, as authorized by chapter three hundred and seventy-one of the acts of the present year, a sum not exceeding fifty thousand dollars, to be assessed upon the cities and towns in the metropolitan parks district in accordance with their taxable valuations 50,000 00
- 706g. For certain expenses on account of the construction of the northern artery as finally determined by chapter three hundred and eighty-two of the acts of the present year, a sum not exceeding two hundred and fifty thousand dollars, to be assessed upon the cities and towns in the metropolitan parks district in accordance with their taxable valuations 250,000 00

SECTION 3. The following amendments and changes are hereby made in chapter one hundred and forty-six of the acts of the present year, together with certain other changes and adjustments: —

Department of Public Works

The department of public works is hereby authorized, in making settlement of a claim of the Lane Construction Company, to charge the same to item 638.

Metropolitan District Commission

Appropriations made in chapter three hundred and forty-three of the acts of nineteen hundred and twenty-seven, for the construction of a boulevard from Black's Creek bridge to Sea street in Quincy, in item 682a and 706a, are hereby reappropriated.

FINANCIAL STATEMENTS
SUMMARY OF INCOME
YEAR ENDING Nov. 30, 1929

Highway Fund
Ch. 288, Acts of 1925

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts	\$7,348,384 88	
Gasoline tax, gross	7,531,189 05	
Contributions for highways and assessments (G. L., Ch. 81)	1,176,321 71	
Appropriation balances of previous years reverting	41,536 15	
Reimbursement for repairs to guard rails	12,324 01	
Miscellaneous receipts	2,070 34	
Contributions and refunds	58,830 85	
		<hr/> \$16,170,656 99

Port of Boston Fund
Ch. 91, General Laws

Rent (leases and permits)	\$204,191 50	
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	1,860 92	
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	181,904 23	
Use of Commonwealth Pier No. 1 (rentals, etc.)	309 70	
Use of Hayward Creek property (rentals)	225 00	
Revenue from permits for dumping dredged material at receiving basins	4,096 38	
License charges (for tidewater displacement and occupying Commonwealth tide lands) Boston Harbor	37,791 30	
Telephone pay station receipts	98 97	
Sales of land, South Boston	5,206 19	
Sale of Boston Harbor maps	34 50	
Sundries	41 59	
		<hr/> \$435,760 28

Department Income
(Ordinary Revenue)

Reimbursement for services (heating D Street Building)	\$832 00	
Sales (specifications and plans for contracts)	891 00	
Interest on bank accounts	2,122 17	
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925)	1,094 27	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	8,992 68	
Certified copying charges	153 00	
Sale of Atlas sheets and miscellaneous plans	817 20	
Use of Province Lands (§ 25, C. 91, G. L.)	369 40	
Permits for advertising signs	17,495 13	
Use of New Bedford State Pier	8,272 75	
		<hr/> \$41,039 60

Improvement of Rivers and Harbors Trust
Sections 11, 29, ch. 91, Gen. Laws

Contributions from towns, individuals or others	\$95,000 15	
		<hr/> \$95,000 15

Highway Trust
(Section 30, ch. 81, Gen. Laws)

Federal Aid (reimbursement from U. S. Government)	\$860,561 39	\$860,561 39
Total		\$17,603,018 41

SUMMARY OF EXPENDITURES RELATING TO HIGHWAYS

The expenditures by the Department for highways under the General Laws and other acts and chapters 146 and 386, Acts of 1929, making appropriations therefor, during the fiscal year ending Nov. 30, 1929, were as follows: —

For construction of State highways, under chapter 81, General Laws	\$2,718,497 63
For maintenance and repair of State Highways, under section 13, chapter 81, General Laws	6,851,202 73
For construction and repair of town and county ways, under section 34, chapter 90, General Laws, as amended	2,049,085 91
For highways in the five Western Counties under chapter 221, General Acts of 1915 and chapter 572, Acts of 1920	1,626 29
For aiding towns in the repair and improvement of public ways, under section 26, chapter 81, General Laws, as amended	918,923 17
For the construction of a southern traffic route, under chapters 330 and 344, Acts of 1925, and section 4, chapter 369 and chapter 398, Acts of 1926	97,932 69
For administering the law relative to advertising signs near highways	14,503 20
For the construction of the Cambridge Artery, under chapter 366, Acts of 1928	416,175 54
For the construction of a public highway along the shores of Dorchester Bay, under chapter 259, Acts of 1928	43,360 49
For the construction and improvement of certain ways in the city of Malden, and the towns of Braintree, Weymouth and Hingham, under chapter 364, Acts of 1929	166,111 56
For the refund of Southern Artery Betterment Assessments	80,417 34
For the maintenance and operation of the bridge over Merrimack River between Newburyport and Salisbury, under chapter 716, Acts of 1912	5,144 53
For the maintenance and operation of the bridge over Taunton Great River at Brightman Street in Fall River, under chapter 717, Acts of 1912	12,285 01
For the suppression of gypsy and brown-tail moths on State highways	14,823 47
For general expenses	86,947 62
Total	\$13,477,037 18

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles	\$1,342,815 09
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SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General expenses	\$50,150 16
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Boston Harbor:

Maintenance and operation, Commonwealth Pier 1, East Boston	8,000 00
Maintenance and operation, Commonwealth Pier 5, South Boston	110,123 82
Maintenance of property	136,564 65
Dredging and filling	86,014 45
Streets, piers and railroads	47,565 99

P.D. 54	15
Repairs to sea wall, Castle Island	\$3,024 00
Dredging Savin Hill Bay	147,500 00
Boston Harbor investigation	20,000 00
Moving hangars at airport, East Boston	22,000 00

Outside of Boston Harbor:

Improvement of rivers and harbors	215,973 01
Fort Point Channel investigation	1,459 77
Repairing damages to shore	49,700 74
Maintenance, New Bedford State Pier	5,000 00
Sea wall, Winthrop	24 77
Expenses of province lands	5,000 00
Expenses of Plymouth property	5,426 35
Flood damage repairs, Connecticut and Hoosac rivers	22,642 18
Angle Tree monument	123 12
Access to great ponds	4 20
Topographical survey	1,000 00
Stream gauging	4,000 00
Surveying town boundaries	1,000 00
Locating state boundaries	1,000 00
Compensation for services of dumping inspectors	5,015 81

Total	\$646,168 31
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RELATING TO HIGHWAYS

COOPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended by section 1, chapter 120, Acts of 1921, and as amended in section 26 by chapter 281, Acts of 1922, and under section 34, chapter 90, General Laws, as amended by section 1, chapter 112, Acts of 1921, and as amended by chapter 288, Acts of 1925, of approximately \$3,415,198.47 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; hearings on petitions for the amendment or revision of permits for the operation of bus lines in 24 cases; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 61 cases; on the matter of outdoor advertising in 7 cases; on the matter of special regulations for motor vehicles in North Andover, Somerville, Tyngsborough, Winchester and West Springfield; on the appeal from the action taken by the Registrar of Motor Vehicles prohibiting flying for commercial purposes from an airport in Grafton; on the disposition of minor offences under the motor vehicle laws; and on traffic regulations.

Petitions were received and contracts signed during the year, as follows: —

	Petitions	Contracts
State highways	14	47
Work under section 34, chapter 90, General Laws, as amended	82	305
Work under section 26, chapter 81, General Laws, as amended	168	168
Work under special acts	—	4
Totals	264	524

GENERAL STATEMENT AS TO SURVEYS, PLANS, ESTIMATES AND OTHER WORK
DURING THE YEAR

State Highways.—During the year ending Nov. 30, 1929, the Department completed work on about 56.434 miles of State highway, portions of which were laid out in 1928. Construction was commenced, but not completed, on about 0.8 miles of road in 2 towns. Layouts were made of 29.673 miles of State highway in 17 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1921, 11.276 miles of State highway were discontinued or abandoned. The total length of State highways laid out to the end of the year was 1,627.505 miles.

Surveys, Plans and Estimates.—During the year preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Preliminary surveys in 20 towns, 37.066 miles; plans in 19 towns, 33.622 miles; preliminary estimates in 13 towns, 34.796 miles; lines and grades in 18 towns, 33.099 miles; and final surveys and estimates in 14 towns, 30.829 miles.

For State Highway Reconstruction and Resurfacing.—Preliminary surveys in 58 towns, 104.65 miles; plans in 60 towns, 105.605 miles; preliminary estimates in 50 towns, 88.671 miles; lines and grades in 38 towns, 65.659 miles; final surveys and estimates in 33 towns, 53.951 miles.

Under section 34 of chapter 90 of the General Laws as amended:—Preliminary surveys in 167 towns, 188.499 miles; plans in 144 towns, 171.536 miles; preliminary estimates in 100 towns, 104.855 miles; lines and grades in 187 towns, 163.176 miles; final surveys and estimates in 61 towns, 53.247 miles.

Under chapter 364, Resolves of 1929. Preliminary surveys and plans in 1 city, 1.549 miles; preliminary estimates in 1 city and 3 towns, 7.518 miles; lines and grades in 1 city and 3 towns, 7.518 miles.

Under chapter 259, Acts of 1928. Preliminary surveys, plans and estimates in 1 city, 0.379 miles; lines and grades in 1 city, 0.379 miles.

Under chapter 366, Acts of 1928. Preliminary plans and estimates in 1 city, 1.736 miles; lines and grades in 1 city, 1.736 miles.

For Roads to be Constructed by Towns.—Preliminary surveys in 6 towns, 4.123 miles; preliminary estimates in 4 towns, 2.625 miles; plans in 5 towns, 3.971 miles. Lines and grades in 7 towns, 3.246 miles; final survey in 1 town, 0.28 miles.

State Highway Reconnaissance.—Surveys in 16 towns, 30 miles.

Chapter 90 Reconnaissance.—Surveys in 6 towns, 8 miles.

Plans to accompany decrees for street railway locations on State highways have been made in 5 towns.

Roads Constructed in 1928.—Construction has been completed on 56.434 miles of State highway, 158.925 miles of highways under the provisions of section 34 of chapter 90 of the General Laws, as amended, and 4.139 miles of highways under the provisions of special acts, making a total of 219.498 miles completed during the year.

Of the above roads completed this year 30.783 miles were of gravel; 14.185 miles were of bituminous concrete; 121.603 miles were of bituminous macadam; 10.112 miles were of reinforced concrete; 41.480 miles were of gravel with a bituminous treatment, 0.682 miles were of earth, 0.653 miles were of waterbound macadam with a bituminous treatment.

Resurfacing, Reconstruction and Widening.—During the year 2.078 miles of State highway were widened but not resurfaced and 99.984 miles were resurfaced or reconstructed and widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

Of the roads resurfaced or reconstructed this year, 81.572 miles were of bituminous macadam, 9.232 miles were of bituminous concrete, 7.545 miles were of reinforced concrete, and 1.635 miles were of dual type (reinforced concrete and bituminous macadam).

Permits.—There were 2,152 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Municipal Authorities.—The Department furnished without charge, engineering advice to 20 cities and towns in accordance with the provisions of section 1, chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of roads in 33 towns and cities.

Approval of Bridge Plans.—The Department approved during the year, under the provisions of chapter 313, Acts of 1923, plans for the construction of bridges in 10 towns and cities.

STATE HIGHWAYS

General Laws, chapter 81, section 4, provides that—

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows:—

SELECTMEN OF MATTAPOISETT.—Road extending from a point on County Street about one-half mile westerly of the New York, New Haven & Hartford Railroad crossing easterly for about one and nine-tenths miles to a point on the Marion Road. Received Dec. 18, 1929.

MAYOR AND CITY COUNCIL OF GARDNER.—Road locally known as West Broadway and as Templeton Street, extending from the junction of West Broadway and Copant Street to the dividing line between the city of Gardner and the town of Templeton. Received Feb. 21, 1929.

SELECTMEN OF BOURNE.—Road on the south side of the Cape Cod Canal, locally known as the County Road, extending from Eldredge's Corner through Sagamore to the dividing line between the towns of Bourne and Sandwich. Received March 23, 1929.

SELECTMEN OF ERVING.—Road locally known as the Northfield Farms Road, extending from the dividing line between the towns of Northfield and Erving to Forest Street. Received March 20, 1929.

SELECTMEN OF LANESBOROUGH.—Road extending from a point about one-half mile north of the Pittsfield line, over a new location easterly of the tracks of the Boston & Albany Railroad, to a point near the Cheshire line. Received March 20, 1929.

SELECTMEN OF CHAPLTON.—Road extending from the dividing line between the towns of Oxford and Charlton southwesterly for about one mile. Received March 27, 1929.

SELECTMEN OF HOLLAND.—Road located in the extreme southeasterly corner of the town, extending from the dividing line between the towns of Sturbridge and Holland to the Connecticut line. Received March 27, 1929.

SELECTMEN OF OXFORD.—Road extending from the dividing line between the towns of Charlton and Oxford northeasterly for about six-tenths of a mile. Received March 27, 1929.

SELECTMEN OF STURBRIDGE.—Road extending from the section of State highway built in 1928, known as the Old Turnpike, to the dividing line between the towns of Sturbridge and Holland. Received March 27, 1929.

SELECTMEN OF PROVINCETOWN.—Road extending from a point at or near the southwesterly end of Commercial Street, over a new location through the Province Lands, to a point on the existing State highway leading to the Race Point Life Saving Station. Received April 5, 1929.

SELECTMEN OF NORTON.—Road extending from a point on Main Street near South Worcester Street westerly over a new location, to the dividing line between the town of Norton and the city of Attleboro. Received May 20, 1929.

SELECTMEN OF MANCHESTER.—Road locally known as Summer Street, extending from the dividing line between the town of Manchester and the city of

Gloucester to the junction of Summer, Sea and Washington streets, and road locally known as Bridge Street, extending from the junction of Bridge, Central, Pine and Bennett streets to the dividing line between the town of Manchester and the city of Beverly. Received June 6, 1929.

SELECTMEN OF BOURNE.— Road locally known as the County Road, on the south side of Cape Cod Canal, extending from Bourne Village to the dividing line between the towns of Bourne and Sandwich. Received October 4, 1929.

SELECTMEN OF CHESTER.— Road extending from a point on the Huntington Road west of the Boston and Albany Railroad underpass near the property of Carmina Dallesandro to a point on said road near the property of Charles Cooper. Received Nov. 26, 1929.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways in various municipalities:—

Plymouth

Jan. 8, 1929, contract made with Coleman Brothers, Inc., of Boston, for reconstructing about 34,552 feet of State highway on Warren Avenue, the surface consisting of bituminous macadam for about 29,850 feet, and of bituminous concrete for about 4,702 feet. The proposal amounted to \$227,113.70. Work completed Oct. 5, 1929. Expenditure during 1929, \$206,832.29.

Milford

Jan. 8, 1929, contract made with G. Bonazzoli & Sons, of Hudson, for reconstructing about 9,452 feet of State highway on East Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$63,821.95. Work completed Aug. 24, 1929. Expenditure during 1929, \$69,058.64.

Lynnfield-Peabody-Danvers

Jan. 8, 1929, contract made with Warren Brothers Roads Company, of Cambridge, for resurfacing and widening about 2,264 feet of State highway on the Newburyport Turnpike in Lynnfield, about 14,356 feet of State highway on the same road in Peabody, and about 10,300 feet of State highway on the same road in Danvers, the surface consisting of bituminous concrete on 17,658 feet, of bituminous macadam on 1,396 feet, and of reinforced cement concrete on 7,866 feet. The proposal amounted to \$188,520.27. Work completed Aug. 20, 1929. Expenditure during 1929, \$204,905.90.

Florida-Savoy-Charlemont

Jan. 22, 1929, contract made with D'Onfro Brothers, Inc., of Leominster, for reconstructing about 25,182 feet of State highway on the Mohawk Trail in Florida, about 9,492 feet of State highway on the same road in Savoy, and about 15,100 feet of State highway on the same road in Charlemont, the surface consisting of bituminous macadam. The proposal amounted to \$451,721.75. Work about four-fifths completed. Expenditure during 1929, \$362,964.30.

Millbury-Grafton

Jan. 22, 1929, contract made with Hagan-Thibodeau Construction Co., Inc., of Eden Park, R. I., for reconstructing about 4,080 feet of State highway on the Worcester Road and Farnumsville Road in Millbury and about 19,368 feet of State highway on the same road in Grafton, the surface consisting of bituminous macadam. The proposal amounted to \$189,616.80. Work completed Sept. 28, 1929. Expenditure during 1929, \$202,138.11.

Marion-Wareham

Mar. 19, 1929, contract made with Charles I. Hosmer, of Greenfield, for reconstructing two bridges and the approaches thereto on about 3,600 feet of State highway, the surface over the bridges consisting of bituminous concrete, the surface on the balance of the road consisting of bituminous macadam. The

proposal amounted to \$176,950.40. Work about three-fourths completed. Expenditure during 1929, \$135,618.76.

Barnstable

Apr. 2, 1929, contract made with Ashley & Loring, of East Bridgewater, for reconstructing about 4,957 feet of State highway on the North County Road, the surface consisting of bituminous concrete. The proposal amounted to \$30,995.60. Work completed Aug. 27, 1929. Expenditure during 1929, \$34,219.27.

Sunderland

Apr. 2, 1929, contract made with the Kelleher Corporation, of Montague, for reconstructing about 1,310 feet of State highway on the Amherst Road, the surface consisting of bituminous macadam. The proposal amounted to \$8,825.50. Work completed May 14, 1929. Expenditure during 1929, \$9,285.73.

Erving-Northfield

Apr. 2, 1929, contract made with the Kelleher Corporation, of Montague, for constructing about 8,230 feet of State highway on the Northfield Farms Road in Erving, and about 8,309 feet of State highway on the same road in Northfield, the surface consisting of bituminous macadam. The proposal amounted to \$113,-405.30. Work completed Aug. 3, 1929. Expenditure during 1929, \$126,757.97.

Falmouth

Apr. 2, 1929, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing about 9,300 feet of State highway on a new location, the surface consisting of bituminous concrete. The proposal amounted to \$56,897.40. Work completed Aug. 29, 1929. Expenditure during 1929, \$62,-445.19.

Lanesborough-New Ashford

Apr. 2, 1929, contract made with The Lane Construction Corporation, of Meriden, Connecticut, for constructing about 6,811 feet of State highway on the Pittsfield Road in New Ashford, and about 17,538 feet of State highway on the same road in Lanesborough, the surface consisting of reinforced cement concrete. The proposal amounted to \$240,813.50. Work completed Nov. 27, 1929. Expenditure during 1929, \$219,070.11.

Mattapoisett

Apr. 2, 1929, contract made with Watkins Brothers, of New Bedford, for constructing about 9,940 feet of State highway on Fairhaven Road, County Road, and new location, the surface consisting of bituminous macadam. The proposal amounted to \$78,822.70. Work practically completed. Expenditure during 1929, \$65,613.60.

Holland-Sturbridge

Apr. 9, 1929, contract made with the Waterbury Road Construction Company, Inc., of Mansfield Depot, Connecticut, for constructing about 498 feet of State highway on the Sturbridge Road in Holland, and about 34,738 feet of State highway on the same road in Sturbridge, the surface consisting of bituminous macadam. The proposal amounted to \$344,974.00. Work practically completed. Expenditure during 1929, \$332,308.69.

Kingston

Apr. 9, 1929, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Connecticut, for reconstructing about 12,260 feet of State highway on Main and Summer streets, the surface consisting of bituminous macadam. The proposal amounted to \$81,267.50. Work completed July 30, 1929. Expenditure during 1929, \$84,370.65.

Chelsea

Apr. 16, 1929, contract made with F. J. McCarthy Contracting Company, of Boston, for reconstructing about 5,064 feet of State highway on Eastern Avenue, the surface consisting of reinforced cement concrete with bituminous macadam

surfacing on each side of the concrete for about 3,535 feet. The proposal amounted to \$71,475.40. Work completed Aug. 10, 1929. Expenditure during 1929, \$76,722.69.

Milford-Hopedale-Upton

Apr. 16, 1929, contract made with R. H. Newell Company, of Uxbridge, for reconstructing about 9,316 feet of State highway on the Upton Road in Milford, about 1,121 feet of State highway on the same road in Hopedale, and about 12,840 feet of State highway on the same road in Upton, the surface consisting of bituminous macadam. The proposal amounted to \$237,663.25. Work practically completed. Expenditure during 1929, \$204,068.28.

Charlton-Oxford

Apr. 16, 1929, contract made with Carlo Bianchi & Company, Inc., of Framingham, for constructing about 5,342 feet of State highway on the Oxford Road in Charlton, and about 3,100 feet of State highway on the same road in Oxford, the surface consisting of bituminous macadam. The proposal amounted to \$78,498.90. Work completed Sept. 10, 1929. Expenditure during 1929, \$82,083.75.

Lanesborough

Apr. 16, 1929, contract made with The Lane Construction Corporation, of Meriden, Connecticut, for constructing about 9,200 feet of State highway on the North Adams-Pittsfield Road and on new location in Lanesborough, the surface consisting of reinforced cement concrete. The proposal amounted to \$104,473.75. Work completed Nov. 27, 1929. Expenditure during 1929, \$88,865.65.

Provincetown

Apr. 23, 1929, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing 8,900 feet of State highway on Commercial Street and on new location in Provincetown, the surface consisting of bituminous concrete. The proposal amounted to \$80,182.00. Work completed Oct. 25, 1929. Expenditure during 1929, \$70,334.64.

Gloucester

Apr. 23, 1929, contract made with Welch & Moynihan Co., of Salem, for reconstructing about 9,529 feet of State highway on Western Avenue in Gloucester, the surface consisting of bituminous macadam. The proposal amounted to \$101,341.60. Work completed Oct. 28, 1929. Expenditure during 1929, \$92,546.81.

Gardner

Apr. 30, 1929, contract made with H. and J. P. Green Company, Inc., of Worcester, for constructing about 8,600 feet of State highway on West Broadway in Gardner, the surface consisting of bituminous macadam. The proposal amounted to \$82,692.20. Work completed Oct. 21, 1929. Expenditure during 1929, \$66,920.16.

Wrentham

Apr. 30, 1929, contract made with T. J. Quinn & Son, of Ashton, R. I., for constructing about 13,751 feet of State highway on West Street in Wrentham, the surface consisting of bituminous macadam. The proposal amounted to \$90,272.00. Work completed Oct. 1, 1929. Expenditure during 1929, \$85,737.23.

Framingham-Southborough

Apr. 30, 1929, contract made with the Middlesex Construction Company, of Framingham, for reconstructing about 12,824 feet of State highway on Pleasant Street in Framingham and about 6,047 feet of State highway on the same road in Southborough, the surface consisting of bituminous macadam. The proposal amounted to \$121,409.50. Work completed Oct. 2, 1929. Expenditure during 1929, \$130,445.02.

Erving

May 7, 1929, contract made with Ralph E. Bull, of Fitchburg, for reconstructing about 24,178 feet of State highway on the Mohawk Trail, the surface consist-

ing of bituminous macadam. The proposal amounted to \$212,141.50. Work about three-fourths completed. Expenditure during 1929, \$163,785.70.

Colrain-Shelburne

May 14, 1929, contract made with Perini & Ampollini, of Plainville, for reconstructing about 11,377 feet of State highway on Main Street in Shelburne, and about 10,050 feet of State highway on the same road in Colrain, the surface consisting of bituminous macadam. The proposal amounted to \$126,619.10. Work completed Oct. 7, 1929. Expenditure during 1929, \$110,809.84.

Rehoboth-Seekonk

May 21, 1929, contract made with Joseph McCormick, of Seekonk, for reconstructing about 9,904 feet of State highway on the Providence Turnpike in Rehoboth, and about 14,554 feet of State highway on the same road in Seekonk, the surface consisting of reinforced cement concrete. The proposal amounted to \$232,992.46. Work completed Nov. 5, 1929. Expenditure during 1929, \$219,761.30.

Attleboro-Norton-Mansfield

June 4, 1929, contract made with Arute Brothers, Inc., of New Britain, Connecticut, for constructing and reconstructing about 3,939 feet of State highway on Pleasant Street, Attleboro, about 18,547 feet of State highway on Main Street, Norton, about 7,400 feet of State highway on South Main Street, Mansfield, and about 9,865 feet of State highway on Mansfield Avenue, Norton, the surface consisting of bituminous macadam. The proposal amounted to \$275,090.58. Work completed Oct. 22, 1929. Expenditure during 1929, \$243,693.87.

Amesbury

June 18, 1929, contract made with John J. Watkins, of Amesbury, for surfacing about 850 feet of State highway on Macy Street, the surface consisting of bituminous macadam. The proposal amounted to \$3,385.00. Work completed July 23, 1929. Expenditure during 1929, \$4,361.60.

Charlton-Sturbridge

June 18, 1929, contract made with The Lane Construction Corporation, of Meriden, Connecticut, for surfacing about 13,823 feet of State highway on the Brimfield Road in Sturbridge, and about 15,870 feet of State highway on the same road in Charlton, the surface consisting of bituminous macadam. The proposal amounted to \$101,488.00. Work completed Nov. 2, 1929. Expenditure during 1929, \$83,350.69.

Gloucester

June 18, 1929, contract made with Welch & Moynihan Co., of Salem, for constructing about 3,970 feet of State highway on Western Avenue in Gloucester, the surface consisting of bituminous macadam. The proposal amounted to \$32,890.00. Work completed Nov. 15, 1929. Expenditure during 1929, \$34,228.20.

Greenfield

June 25, 1929, contract made with Kelleher Corporation, of Montague, for reconstructing about 8,600 feet of State highway on the Bernardston Road in Greenfield, the surface consisting of bituminous macadam. The proposal amounted to \$53,072.75. Work completed Oct. 2, 1929. Expenditure during 1929, \$58,408.63.

Yarmouth

July 9, 1929, contract made with Washburn & Sheridan Construction Company, of Taunton, for reconstructing about 700 feet of State highway on South Main Street in Yarmouth, the surface consisting of bituminous concrete. The proposal amounted to \$3,879.00. Work completed Aug. 23, 1929. Expenditure during 1929, \$4,281.41.

North Andover

July 23, 1929, contract made with Patrick J. Holland, of Lawrence, for reconstructing about 11,234 feet of State highway on the Salem Turnpike in North

Andover, the surface consisting of reinforced cement concrete. The proposal amounted to \$99,509.00. Work practically completed. Expenditure during 1929, \$101,760.68.

Dennis

Aug. 13, 1929, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Connecticut, for reconstructing about 17,120 feet of State highway on the South County Road in Dennis, the surface consisting of bituminous concrete. The proposal amounted to \$76,136.00. Work about two-thirds completed. Expenditure during 1929, \$54,581.03.

Wilbraham

Aug. 27, 1929, contract made with the Dracut Construction Company, of Dracut, for reconstructing about 8,633 feet of State highway on the Springfield-Worcester Road in Wilbraham, the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$104,179.50. Work about four-fifths completed. Expenditure during 1929, \$80,631.42.

Fall River-Somerset

Sept. 3, 1929, contract made with the Sherry Construction Co., Inc., of Fall River, for strengthening floor system and resurfacing roadway on Brightman Street Bridge over the Taunton River between the city of Fall River and the town of Somerset, the surface consisting of bituminous concrete. The proposal amounted to \$53,981.20. Work about nine-tenths completed. Expenditure during 1929, \$42,817.38.

Millbury

Sept. 17, 1929, contract made with Charles E. Horne, of Millbury, for widening about 530 feet of State highway on Main Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$7,274.50. Work completed Oct. 25, 1929. Expenditure during 1929, \$5,515.10.

Leominster

Sept. 10, 1929, contract made with the Fitchburg Concrete Construction Co., of Fitchburg, for resurfacing and widening about 1,926 feet of State highway, the surface consisting of bituminous macadam. The proposal amounted to \$9,100.00. Work practically completed. Expenditure during 1929, \$7,047.65.

Danvers-Topsfield-Ipswich

Sept. 17, 1929, contract made with the Lawton Construction Co., of Providence, R. I., for resurfacing and widening about 7,841 feet of State highway on the Newburyport Turnpike in Danvers, about 24,798 feet of State highway on the same road in Topsfield, and about 6,850 feet of State highway on the same road in Ipswich, the surface consisting of bituminous macadam. The proposal amounted to \$312,028.90. Work about three-tenths completed. Expenditure during 1929, \$99,355.77.

Chester

Sept. 17, 1929, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing and reconstructing about 22,322 feet of State highway on the Becket Road, the contract including four bridges, the surface of the roadway and over three bridges consisting of bituminous macadam, the surface over one bridge consisting of bituminous concrete. The proposal amounted to \$310,036.25. Work about one-sixth completed. Expenditure during 1929, \$49,103.62.

Newbury

Oct. 1, 1929, contract made with Merritt-Chapman & Scott Corporation, of New York, for constructing a bridge and approaches on about 1,600 feet of State highway on High Street in Newbury, the surface over the bridge consisting of bituminous concrete, and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$262,954.40. Work just commenced. Expenditure during 1929, \$2,793.78.

Sterling

Oct. 8, 1929, contract made with The Fitchburg Concrete Construction Company, of Fitchburg, for reconstructing about 1,805 feet of State highway on the Worcester Road in Sterling, the surface consisting of bituminous macadam. The proposal amounted to \$9,952.00. Work practically completed. Expenditure during 1929, \$8,540.15.

Newton

Oct. 8, 1929, contract made with Raimo & Panakio, of Lynn, for reconstructing about 5,450 feet of State highway on Needham Street and Winchester Street in Newton, the surface consisting of bituminous macadam. The proposal amounted to \$33,798.20. Work just commenced. Expenditure during 1929, \$4,762.12.

Dedham

Oct. 29, 1929, contract made with Perini & Ampollini, of Athol, for resurfacing and widening about 6,674 feet of State highway on Bridge Street and Ames Street in Dedham, the surface consisting of bituminous macadam. The proposal amounted to \$58,313.50. Work just commenced. Expenditure during 1929, \$5,933.00.

Provincetown

Nov. 20, 1929, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing about 10,761 feet of State highway on Province Lands Road in Provincetown, the surface consisting of bituminous concrete. The proposal amounted to \$87,724.40. Work just commenced. Expenditure during 1929, \$701.25.

Lynn

Nov. 26, 1929, contract made with D. Cerulli & Son, of Boston, for resurfacing and widening about 10,600 feet of State highway on Lynnfield Street in Lynn, the surface consisting of bituminous macadam. The proposal amounted to \$49,919.00. Work just commenced. Expenditure during 1929, \$298.52.

Hadley

Nov. 26, 1929, contract made with Warner Bros. & Goodwin, Inc., of Sunderland, for reconstructing about 14,057 feet of State highway on the Amherst Road in Hadley, the surface consisting of bituminous macadam. The proposal amounted to \$60,608.40. Work not commenced.

EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were: —

Barnstable, \$204,195.09	Hampden, \$221,816.39
Berkshire, \$655,533.86	Hampshire, \$82,238.60
Bristol, \$173,405.18	Norfolk, \$141,496.76
Dukes, \$1,577.02	Plymouth, \$92,006.32
Essex, \$85,957.67	Worcester, \$866,775.09
Franklin, \$193,495.65	Total, \$2,718,497.63

Details of the foregoing expenditures follow: —

Barnstable County. — Falmouth, \$122,873.51; Provincetown, \$81,321.58.

Berkshire County. — Becket, \$57,698.62; Florida, \$35,360.11; Great Barrington, \$1,865.79; Lanesborough, \$284,510.88; New Ashford, \$68,100.85; Otis, \$2,044.45; Richmond, \$66,000.98; Sandisfield, \$97,398.91; West Stockbridge, \$42,553.27.

Bristol County. — Mansfield, \$52,595.06; Norton, \$118,373.97; Swansea, \$561.36; Westport, \$1,874.79.

Dukes County. — Gay Head, \$1,577.02.

Essex County. — Amesbury, \$34,581.19; Danvers, \$87.01; Gloucester, \$38,836.12; Groveland, \$4,066.67; Newbury, \$8,299.67; Topsfield, \$87.01.

Franklin County. — Bernardston, \$1,731.05; Colrain, \$14,745.24; Deerfield, \$20,337.49; Erving, \$69,891.75; Gill, \$1,845.51; Northfield, \$84,944.61.

Hampden County.—Brimfield, \$128,658.61; Chester, \$16,549.35; Holland, \$3,929.57; Palmer, \$56,786.60; Tolland, \$12,780.73; West Springfield, \$3,111.53.
Hampshire County.—Easthampton, \$82,238.60.
Norfolk County.—Dedham, \$42,607.07; Wrentham, \$98,889.69.
Plymouth County.—Mattapoisett, \$82,398.40; Plymouth, \$9,607.92.
Worcester County.—Charlton, \$169,837.51; Gardner, \$77,977.75; Oxford, \$31,728.32; Sturbridge, \$461,727.14; Templeton, \$125,504.37.

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, chapter 81, General Laws, and chapter 146, Acts of 1929)

The expenditures during the year in the various counties were:—

Barnstable, \$260,213.85	Hampshire, \$205,161.57
Berkshire, \$743,835.94	Middlesex, \$437,930.13
Bristol, \$601,954.28	Nantucket, \$305.65
Dukes, \$6,580.73	Norfolk, \$163,004.80
Essex, \$895,870.60	Plymouth, \$630,247.47
Franklin, \$679,400.25	Suffolk, \$106,057.45
Hampden, \$371,993.41	Worcester, \$1,519,232.81
	*Total, \$6,621,788.94

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$63,606.15; Bourne, \$12,725.62; Brewster, \$3,349.10; Chatham, \$1,937.63; Dennis, \$69,827.20; Eastham, \$2,234.32; Falmouth, \$71,617.28; Harwich, \$1,507.22; Mashpee, \$11,449.93; Orleans, \$1,385.26; Provincetown, \$1,628.60; Sandwich, \$5,152.82; Truro, \$2,803.31; Wellfleet, \$2,347.87; Yarmouth, \$8,641.54.

Berkshire County.—Adams, \$2,443.97; Becket, \$22,507.47; Cheshire, \$6,087.40; Clarksburg, \$13,866.25; Dalton, \$3,005.05; Egremont, \$5,717.20; Florida, \$284,664.85; Great Barrington, \$13,274.24; Hancock, \$11,497.83; Hinsdale, \$3,028.23; Lanesboro, \$2,912.87; Lee, \$6,781.53; Lenox, \$4,957.20; New Ashford, \$1,501.54; New Marlboro, \$225.69; North Adams, \$184,145.99; Otis, \$4,836.57; Pittsfield, \$11,471.11; Richmond, \$7,172.16; Sandisfield, \$2,616.01; Savoy, \$107,739.28; Sheffield, \$7,642.15; Stockbridge, \$5,148.03; Washington, \$2,332.17; West Stockbridge, \$280.85; Williamstown, \$21,256.03; Windsor, \$6,724.27.

Bristol County.—Acushnet, \$4,205.07; Attleboro, \$32,541.63; Berkeley, \$637.47; Dartmouth, \$6,884.44; Dighton, \$18,061.87; Easton, \$5,562.29; Fairhaven, \$3,012.50; Fall River, \$26,004.34; Freetown, \$4,406.61; Mansfield, \$8,853.26; North Attleborough, \$2,265.73; Norton, \$98,148.43; Raynham, \$4,262.54; Rehoboth, \$108,055.05; Seekonk, \$166,491.36; Somerset, \$44,682.56; Swansea, \$22,183.25; Taunton, \$15,443.56; Westport, \$30,252.32.

Dukes County.—Chilmark, \$1,498.68; Edgartown, \$1,036.29; Gay Head, \$1,007.28; Oak Bluffs, \$602.40; Tisbury, \$681.34; West Tisbury, \$1,754.74.

Essex County.—Amesbury, \$10,827.87; Andover, \$2,574.25; Beverly, \$6,203.37; Danvers, \$118,474.00; Essex, \$2,478.24; Gloucester, \$116,305.44; Groveland, \$16,949.69; Hamilton, \$4,011.60; Haverhill, \$2,693.64; Ipswich, \$34,106.49; Lawrence, \$1,194.22; Lynn, \$19,378.05; Lynnfield, \$33,705.80; Merrimac, \$1,144.04; Methuen, \$7,109.24; Middleton, \$5,180.46; Newbury, \$10,158.79; Newburyport, \$14,334.62; North Andover, \$135,482.23; Peabody, \$129,027.64; Rockport, \$616.56; Rowley, \$5,851.96; Salem, \$87,279.72; Salisbury, \$12,211.82; Saugus, \$31,818.42; Swampscott, \$2,930.39; Topsfield, \$76,928.70; Wenham, \$2,154.10; West Newbury, \$4,739.25.

Franklin County.—Ashfield, \$3,498.92; Bernardston, \$19,154.17; Buckland, \$6,370.19; Charlemont, \$138,159.37; Colrain, \$69,082.06; Conway, \$5,063.68; Deerfield, \$40,886.63; Erving, \$201,686.81; Gill, \$60.47; Greenfield, \$76,089.43; Montague, \$4,020.23; Northfield, \$11,194.71; Orange, \$2,537.31; Shelburne, \$82,009.94; Sunderland, \$15,693.23; Whately, \$3,893.10.

Hampden County.—Agawam, \$6,852.28; Blandford, \$2,323.97; Brimfield, \$3,690.02; Chester, \$50,704.94; Chicopee, \$23,159.83; East Longmeadow, \$1,843.29; Holyoke, \$4,980.74; Monson, \$10,662.65; Palmer, \$19,714.15; Russell,

* In addition to this figure, the amount of \$229,413.89 was expended for snow removal.

\$126,078.03; Southwick, \$4,191.44; Tolland, \$3.37; Wales, \$2,741.18; West Springfield, \$2,787.40; Westfield, \$4,343.00; Wilbraham, \$107,917.12.

Hampshire County. — Amherst, \$20,058.23; Belchertown, \$4,687.34; Cummington, \$11,580.49; Easthampton, \$15,370.83; Goshen, \$4,924.74; Granby, \$6,144.81; Hadley, \$6,389.73; Hatfield, \$2,328.81; Huntington, \$71,140.83; Northampton, \$37,672.35; South Hadley, \$6,524.96; Southampton, \$2,614.34; Ware, \$12,133.41; Williamsburg, \$3,590.70.

Middlesex County. — Acton, \$3,834.14; Arlington, \$1,991.28; Ashby, \$5,843.14; Ashland, \$2,339.96; Ayer, \$13,224.89; Bedford, \$1,882.73; Billerica, \$6,372.27; Boxborough, \$3,600.78; Burlington, \$1,679.85; Chelmsford, \$2,550.13; Concord, \$4,303.36; Dracut, \$6,043.64; Framingham, \$101,676.14; Groton, \$6,661.13; Holliston, \$5,223.81; Hudson, \$1,647.59; Lexington, \$5,875.46; Lincoln, \$953.59; Littleton, \$6,824.03; Lowell, \$2,229.17; Malden, \$41.52; Marlborough, \$32,817.39; Medford, \$1,063.68; Melrose, \$593.59; Natick, \$1,847.48; Newton, \$7,522.63; North Reading, \$1,870.17; Pepperell, \$133,923.57; Reading, \$7,674.03; Shirley, \$3,325.00; Somerville, \$936.27; Stoneham, \$1,584.84; Sudbury, \$5,197.67; Tewksbury, \$3,724.69; Townsend, \$23,448.98; Tyngsborough, \$2,844.34; Waltham, \$628.68; Watertown, \$3,763.03; Wayland, \$2,920.76; Westford, \$1,860.25; Weston, \$3,362.65; Wilmington, \$3,687.49; Winchester, \$1,188.23; Woburn, \$7,346.10.

Nantucket County. — Nantucket, \$305.65.

Norfolk County. — Avon, \$1,528.58; Bellingham, \$19,027.16; Braintree, \$10,932.50; Canton, \$5,768.13; Cohasset, \$865.92; Dedham, \$10,024.07; Dover, \$17,387.54; Foxborough, \$7,552.06; Franklin, \$17,719.83; Holbrook, \$5,339.92; Milton, \$8,161.43; Needham, \$6,408.21; Norfolk, \$940.35; Norwood, \$2,055.32; Plainville, \$1,809.32; Quincy, \$6,936.97; Randolph, \$3,181.82; Sharon, \$222.72; Stoughton, \$4,016.66; Walpole, \$2,754.47; Wellesley, \$734.20; Westwood, \$8,740.96; Weymouth, \$9,798.67; Wrentham, \$11,097.99.

Plymouth County. — Abington, \$16,781.59; Bridgewater, \$4,128.05; Brockton, \$2,131.19; Duxbury, \$1,301.31; East Bridgewater, \$813.90; Hanover, \$1,206.66; Hingham, \$10,211.87; Kingston, \$104,354.82; Lakeville, \$6,635.01; Marion, \$58,648.93; Marshfield, \$6,459.01; Mattapoisett, \$2,702.66; Middleborough, \$7,898.16; Norwell, \$1,308.19; Pembroke, \$1,003.64; Plymouth, \$276,278.69; Rochester, \$695.11; Rockland, \$3,424.90; Scituate, \$1,936.70; Wareham, \$119,687.16; West Bridgewater, \$1,020.52; Whitman, \$1,619.40.

Suffolk County. — Boston, \$2,983.05; Chelsea, \$95,002.59; Revere, \$8,071.81.

Worcester County. — Ashburnham, \$160,388.64; Athol, \$54,951.17; Auburn, \$5,824.64; Barre, \$16,533.90; Blackstone, \$1,047.48; Brookfield, \$865.67; Charlton, \$8,009.51; Douglas, \$1,577.00; Dudley, \$26,098.31; East Brookfield, \$1,900.70; Fitchburg, \$3,066.48; Gardner, \$10,358.49; Grafton, \$207,948.29; Hardwick, \$1,816.94; Harvard, \$4,169.44; Holden, \$17,326.74; Hopedale, \$22,390.83; Lancaster, \$1,018.85; Leicester, \$6,751.65; Leominster, \$16,128.93; Lunenburg, \$4,474.69; Mendon, \$4,441.79; Milford, \$167,897.99; Millbury, \$46,532.35; Millville, \$1,208.92; New Braintree, \$516.12; North Brookfield, \$1,650.09; Northboro, \$8,939.49; Northbridge, \$3,339.40; Oakham, \$1,635.62; Oxford, \$11,230.87; Paxton, \$3,137.55; Petersham, \$11,391.41; Phillipston, \$106,823.47; Princeton, \$1,727.12; Rutland, \$7,693.97; Shrewsbury, \$5,841.65; Southborough, \$61,756.67; Southbridge, \$779.93; Spencer, \$27,262.30; Sterling, \$20,046.72; Sturbridge, \$4,365.32; Sutton, \$5,316.28; Templeton, \$18,989.18; Upton, \$144,509.82; Uxbridge, \$14,563.09; Warren, \$4,334.35; Webster, \$2,635.58; West Boylston, \$23,611.66; West Brookfield, \$11,911.24; Westborough, \$2,365.99; Westminster, \$45,988.71; Winchendon, \$168,413.44; Worcester, \$5,726.37.

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

(Section 19, chapter 81, General Laws, as amended by chapter 273, Acts of 1927)

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended by chapter 273, Acts of 1927.

The cooperation of the Department with officers of cities, towns and counties in keeping open and reasonably passable for vehicles during the winter months

such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended by section 2, chapter 482, Acts of 1923.

In accordance with the provisions of these laws, the Department selected 1,500 miles of highways on the principal routes of travel, 1,300 miles of which are State highways and 150 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$229,-413.79.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

Contracts were entered into during the year, as follows, for the construction of public highways in the city of Quincy in accordance with the provisions of chapter 259, Acts of 1928, in the city of Cambridge in accordance with the provisions of chapter 366, Acts of 1928, and in the towns of Weymouth, Hingham and Braintree, and the city of Malden in accordance with the provisions of chapter 364, Acts of 1929: —

Quincy

Mar. 5, 1929, contract made with M. McDonough Company, of Saugus, for constructing about 1,785 feet of highway on Dorchester Street, the surface consisting of bituminous macadam. The proposal amounted to \$30,250.70. Work completed Oct. 22, 1929. Expenditure during 1929, \$39,178.74.

Cambridge

May 21, 1929, contract made with Coleman Brothers, Inc., of Boston, for constructing about 9,046 feet of highway on new location, and on Concord Avenue, Fresh Pond Avenue, Wyeth Terrace and Fresh Pond Parkway, the surface consisting of bituminous macadam. The proposal amounted to \$469,538.00. Work about three-fourths completed. Expenditure during 1929, \$348,218.40.

Braintree-Weymouth-Hingham

Sept. 10, 1929, contract made with the Peerless Construction Company, of Boston, for constructing about 10,000 feet of highway on Plain, Grove and Columbian Streets in Braintree, about 15,655 feet of highway on the same road in Weymouth, and about 6,013 feet of highway on the same road in Hingham, the surface consisting of bituminous macadam. The proposal amounted to \$250,-292.50. Work about two-fifths completed. Expenditure during 1929, \$107,-499.28.

Malden

Sept. 17, 1929, contract made with C. M. Callahan, Inc., of Boston, for constructing about 8,075 feet of highway on Broadway, the surface consisting of bituminous macadam. The proposal amounted to \$118,285.50. Work about three-fifths completed. Expenditure during 1929, \$68,567.92.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to cooperation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved Nov. 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inc.

The following Federal aid allotments have thus far been made to Massachusetts: —

For fiscal year ending June 30, 1917	\$73,850 94
For fiscal year ending June 30, 1918	147,701 90

For fiscal year ending June 30, 1919	\$958,145 15
For fiscal year ending June 30, 1920	1,400,078 27
For fiscal year ending June 30, 1921	1,472,788 83
For fiscal year ending June 30, 1922	1,096,176 04
For fiscal year ending June 30, 1923	730,784 03
For fiscal year ending June 30, 1924	950,448 62
For fiscal year ending June 30, 1925	1,089,806 22
For fiscal year ending June 30, 1926	1,099,891 00
For fiscal year ending June 30, 1927	1,089,055 00
For fiscal year ending June 30, 1928	1,089,100 00
For fiscal year ending June 30, 1929	1,088,808 00
For fiscal year ending June 30, 1930	1,090,077 00
Total	\$13,376,711 00

The total amount received by Massachusetts from 1916 to Nov 30, 1929, is \$9,578,839.55.

Projects to the number of 24 have been prepared in addition to those shown in the report of the Department of Public Works for 1928. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to Nov. 30, 1929, inclusive, is 682.967. The mileage in various counties is:—

Barnstable, 64.712 miles	Hampden, 47.807 miles
Berkshire, 92.605 miles	Hampshire, 41.329 miles
Bristol, 69.292 miles	Middlesex, 59.255 miles
Dukes, 3.117 miles	Norfolk, 38.599 miles
Essex, 62.037 miles	Plymouth, 63.009 miles
Franklin, 28.277 miles	Worcester, 112.928 miles

STATEMENT OF FEDERAL AID ROAD PROJECTS* TO NOV. 30, 1929

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
1	Acushnet-Fairhaven	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover	2.708	19,480 36	19,480 36	Work completed.
3	Malden-Melrose-Saugus	1.162	11,620 00	11,620 00	Work completed.
4	Danvers	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich	1.818	10,678 02	10,678 02	Work completed.
7	Cumington	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham	7.016	90,074 51	90,074 51	Work completed.
9	Saugus	3.122	65,472 27	65,472 27	Work completed.
10	Braintree	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg	2.797	55,940 00	55,940 00	Work completed.
19	Taunton	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk	2.756	19,527 75	19,527 75	Work completed.
R24	Seekonk	2.756	19,540 00		Work completed.
25	Billerica	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1	5.134	102,680 00	102,680 00	Work completed.
	Section 2	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A	0.990	19,780 00	19,780 00	Work completed.
	Section B	2.690	53,800 00	53,800 00	Work completed.
29	Ware	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody	1.107	22,140 00	22,140 00	Work completed.
32	Huntington	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A	2.182	43,640 00	43,640 00	Work completed.
	Section B	1.624	25,847 25	25,847 25	Work completed.

* All of these projects are now, or will be later, State highways.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1929 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
34	Dudley	1.359	\$27,180 00	\$27,180 00	Work completed.
35	Haverhill-Methuen	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A	10.690	91,347 85	91,347 85	Work completed.
	Section B	6.548	75,935 60	75,935 60	Work completed.
	Section C	8.043	86,130 51	86,130 51	Work completed.
37	Egremont	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford- Lanesborough:				
	Section A	0.020	9,123 64	9,123 64	Work completed.
	Section B	3.323	65,980 00	65,980 00	Work completed.
	Section C	4.590	68,850 00		Work completed.
40	East Brookfield	1.011	20,220 00	20,220 00	Work completed.
41	Ashby	1.250	22,141 03	22,141 03	Work completed.
42	Washington	2.291	45,820 00	45,820 00	Work completed.
43	Leicester	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A	1.494	29,880 00	29,880 00	Work completed.
	Section B	1.479	50,183 37	50,183 37	Work completed.
	Section C	3.780	82,915 42	82,915 42	Work completed.
45	Palmer:				
	Sections A and C	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A	1.959	39,180 00	39,180 00	Work completed.
	Section B	2.504	50,080 00	50,080 00	Work completed.
52	Oxford	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brookfield:				
	Section A	0.890	17,800 00	17,800 00	Work completed.
	Section B	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A	0.829	16,580 00	16,580 00	Work completed.
	Section B	2.691	53,820 00	53,820 00	Work completed.
55	Quincy	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn	3.042	59,131 31	59,131 31	Work completed.
58	Littleton	1.345	26,900 00	26,900 00	Work completed.
59	Egremont	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A	3.009	60,180 00	60,180 00	Work completed.
	Section B	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich	4.489	89,780 00	89,780 00	Work completed.
64	Norwood	1.065	21,300 00	21,300 00	Work completed.
65	North Adams	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill	2.657	53,049 24	53,049 24	Work completed.
70	Palmer	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham	1.846	36,940 00	36,940 00	Work completed.
72	Walpole	3.078	61,560 00	61,560 00	Work completed.
73	Southwick	6.879	111,757 95	111,757 95	Work completed.
74	Becket	0.156	13,095 66	13,095 66	Work completed.
R74	Becket	0.189	10,988 45		Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac	1.020	20,397 73	20,397 73	Work completed.
78	Burlington	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington	2.991	59,820 00	59,820 00	Work completed.
79B	Great Barrington	0.028	10,098 38		Work completed.
80	Lee:				
	Section A	0.909	18,180 00	18,180 00	Work completed.
	Section B	0.283	4,245 00	4,245 00	Work completed.
83	Pembroke	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A	1.033	20,660 00	20,660 00	Work completed.
	Section B	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A	1.056	21,120 00	21,120 00	Work completed.
	Section B	0.038	5,429 50	5,429 50	Work completed.
88	Erving	4.537	68,055 00		Work underway.
89	Easton:				
	Sections A and B	3.540	70,800 00	70,800 00	Work completed.
	Section C	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-E. Brookfield	1.227	25,324 95	25,324 95	Work completed.
91	Lowell	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield	7.565	122,931 25	122,931 25	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1929—Continued

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
95	Westfield	0.148	\$12,677 08	\$12,677 08	Work completed.
96	Rochester-Wareham	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester	1.191	19,353 75	19,353 75	Work completed.
100	Rutland	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale	0.858	24,116 51	24,116 51	Work completed.
102A	Plainville-Wrentham	3.254	48,810 00	48,810 00	Work completed.
103	Adams	0.568	9,230 00	9,230 00	Work completed.
104	Milton	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth	1.438	28,760 00	28,760 00	Work completed.
106	Bourne	0.522	35,002 00	35,002 00	Work completed.
107	Southampton	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater	0.109	24,580 87	24,580 87	Work completed.
111	Braintree	0.371	7,200 00	7,200 00	Work completed.
112	North Attleborough-Attleborough	3.278	65,560 00	65,560 00	Work completed.
113	Swansea	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset	3.503	64,439 74	64,439 74	Work completed.
114	Lenox	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsboro	4.625	89,713 81	89,713 81	Work completed.
118A	Brookfield	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield	0.251	3,765 00	3,765 00	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkeley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkeley	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton	0.862	12,930 00	12,930 00	Work completed.
121A	Abington	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth	2.720	40,800 00	40,800 00	Work completed.
121D	East Bridgewater-Whitman	2.000	30,000 00	30,000 00	Work completed.
121E	Abington	1.088	14,770 42	14,770 42	Work completed.
122A	Barnstable	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee	2.482	36,349 09	36,349 09	Work completed.
122C	Falmouth-Mashpee	8.137	132,939 21		Work completed.
123A	Southampton	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland	0.189	30,296 68	30,296 68	Work completed.
124B	Marlborough	1.626	24,390 00	24,390 00	Work completed.
125A	Wareham	3.086	68,316 11	68,316 11	Work completed.
125B	Wareham	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke	4.136	62,040 00	62,040 00	Work completed.
127B	Easthampton-Northampton	1.762	84,084 87		Work completed.
128A	Hinsdale	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham	0.530	7,950 00	7,950 00	Work completed.
131B	Wilbraham	1.012	15,180 00	15,180 00	Work completed.
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00	Work completed.
133A	North Andover	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover	0.771	11,565 00	11,565 00	Work completed.
134A	Barre	1.217	18,255 00	18,255 00	Work completed.
134B	Barre	1.261	18,915 00	18,915 00	Work completed.
134C	Barre	1.617	24,255 00		PS & E Appr.
135A	Russell	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell	3.607	54,075 00	54,075 00	Work completed.
135C	Russell	3.291	54,052 37		Work completed.
135D	Russell-Huntington	3.670	55,050 00		Work completed.
136A	Agawam	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam	1.515	22,725 00	22,725 00	Work completed.
136C	Agawam	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield	0.170	22,710 05	22,710 05	Work completed.
138A	Chester	0.097	10,818 36	10,818 36	Work completed.
138B	Chester	4.250	99,063 09		Work underway.
139A	Brimfield	0.103	6,075 05	6,075 05	Work completed.
139B	Brimfield	4.778	69,410 72		Work completed.
140A	Lenox-Lee	3.519	52,785 00	52,785 00	Work completed.
140B	Lee	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg	5.042	93,547 40	93,547 40	Work completed.
141C	Northampton-Williamsburg	4.146	62,190 00	62,190 00	Work completed.
142A	Fitchburg-Westminster	3.960	69,171 34	69,171 34	Work completed.
142B	Gardner-Westminster	3.699	52,316 73	52,316 73	Work completed.
143	Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester	4.930	73,950 00	73,950 00	Work completed.
147A	Lenox-Pittsfield	2.349	35,235 00		Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1929 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
148A	Raynham	1.657	\$24,855 00	\$24,855 00	Work completed.
148B	Raynham-Taunton	2.861	42,915 00	42,915 00	Work completed.
149A	Middleborough	5.586	83,790 00	83,790 00	Work completed.
150A	Littleton-Westford	1.985	29,775 00	29,775 00	Work completed.
150B	Westford	2.660	39,900 00	39,900 00	Work completed.
151A					
&B	Swansea-Somerset	0.464	89,138 06	89,138 06	Work completed.
152A	Dartmouth	1.401	21,015 00	21,015 00	Work completed.
152B	Dartmouth	2.858	42,870 00	42,870 00	Work completed.
152C	Westport	4.634	69,510 00		Work completed.
153A	Southampton-Easthampton	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield	0.549	8,235 00	8,235 00	Work completed.
156A	Orange	1.058	15,870 00	15,870 00	Work completed.
157A	Sandisfield-Tolland	0.644	34,803 50	34,803 50	Work completed.
R157					
A	Sandsfield-Tolland	0.644	5,660 87		Work completed.
157B	Sandisfield	0.473	32,037 28	32,037 28	Work completed.
157C	Sandisfield-Tolland	3.038	45,570 00		Work completed.
158A	Dalton	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk	2.251	33,765 00	33,765 00	Work completed.
159C	Swansea	2.767	41,505 00	41,505 00	Work completed.
160A	Lenox-Lee-Stockbridge	5.453	81,795 00	81,795 00	Work completed.
161A	Brookton-W. Bridgewater	3.823	57,345 00	57,345 00	Work completed.
162A	Holliston	3.315	49,725 00	49,725 00	Work completed.
162B	Milford	1.790	26,850 00		Work completed.
163A	Amherst	0.052	3,787 09	3,787 09	Work completed.
163B	Amherst	2.100	31,500 00	31,500 00	Work completed.
164A	Westminster-Winchendon	0.750	48,475 74	26,555 45	Work completed.
164B	Westminster-Ashburnham	3.607	54,105 00		Work completed.
164C	Ashburnham	3.776	56,640 00		Work completed.
164D	Winchendon	2.826	42,390 00		Work completed.
165A	Winchendon	2.460	36,900 00	36,900 00	Work completed.
166	Becket-Otis	6.043	99,077 00	99,077 00	Work completed.
168A	Deerfield	3.043	45,645 00	45,645 00	Work completed.
169A	Merrimac-Amesbury	3.397	50,955 00	50,955 00	Work completed.
171A	Chelmsford	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling	2.718	40,770 00	40,770 00	Work completed.
173A	Cheshire	4.377	74,965 81	74,965 81	Work completed.
173B	Lanesboro	1.742	26,130 00		Work completed.
174A	Marshfield	4.533	67,995 00	67,995 00	Work completed.
175A	Sandwich	0.217	22,181 26	22,181 26	Work completed.
175B	Orleans	1.904	23,601 55	23,601 55	Work completed.
175C	Barnstable	0.927	13,905 00		Work completed.
176A	Plymouth	5.032	70,543 35	70,543 35	Work completed.
177A	Chatham	3.964	48,588 18	48,588 18	Work completed.
177B	Orleans	1.802	25,838 02	25,838 02	Work completed.
177C	Dennis	3.219	48,258 37		Work underway.
178A	Chelmsford	1.262	18,930 00	18,930 00	Work completed.
179A	Falmouth	3.394	50,910 00	50,910 00	Work completed.
180A	Franklin-Wrentham	3.125	46,875 00	46,875 00	Work completed.
180B	Bellingham-Franklin	3.889	58,335 00	58,335 00	Work completed.
181A	Florida-North Adams	2.818	42,270 00		Work completed.
181B	Florida	2.736	41,040 00		Work completed.
181C	North Adams-Clarksburg	3.362	50,430 00		Work completed.
181D	Florida-Savoy	3.702	55,530 00		Work underway.
182A	Lunenburg	1.312	19,680 00	19,680 00	Work completed.
183A	Amesbury-Salisbury	1.922	28,830 00	28,830 00	Work completed.
183B	Amesbury	1.329	45,345 32		Work completed.
184A	Charlton	2.848	42,720 00	42,720 00	Work completed.
184B	Charlton-Sturbridge	5.623	84,345 00		Work completed.
185A	Buckland	1.245	18,675 00	18,675 00	Work completed.
185B	Charlemont	2.433	36,495 00		Work underway.
186	Salisbury	2.405	36,075 00	36,075 00	Work completed.
187A	Bellingham	1.225	18,375 00	18,375 00	Work completed.
188A	Townsend	3.813	57,195 00		Work completed.
188B	Pepperell-Groton	3.368	50,520 00		Work completed.
189A	Marion-Wareham	0.582	82,770 63		Work underway.
189B	Mattapoisett	1.804	27,060 00		Work completed.
190A	Becket	2.254	33,810 00		Work completed.
191A	Falmouth	5.896	81,094 43	81,094 43	Work completed.
191B	Falmouth	1.752	26,280 00		Work completed.
192A	Groveland	1.643	24,645 00	24,645 00	Work completed.
192B	Newburyport	1.745	26,175 00	26,175 00	Work completed.
193A	Hadley	1.985	25,821 78	25,821 78	Work completed.
193B	Hadley	2.662	31,715 99		PS&E Appr.
194A	Athol-Phillipston-Templeton	4.738	71,070 00		Work underway.
195A	Mansfield-Norton	0.960	17,862 40	17,862 40	Work completed.
195B	Mansfield-Norton	2.617	39,255 00		Work completed.
196A	Millbury-Grafton	4.440	66,600 00		Work completed.
197	Plymouth	6.543	98,035 70		Work completed.
198A	Milford-Hopedale-Upton	4.418	66,270 00		Work underway.
199A	Newbury	0.303	163,208 90		Work underway.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1929 — *Concluded*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
200A	Rehoboth	1.875	\$28,125 00		Work completed.
201	Wilbraham	1.530	22,950 00		Work underway.
203	Natick-Wellesley	2.066	30,990 00		PS&E Appr.
Total		682.967	\$11,994,512 71	\$9,578,839 55	

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

Cities and Towns, Locality and Character of Structure

- Becket — Washington Mountain Road over Brooker Hill Brook; one 20-foot span, reinforced concrete slab.
- Braintree — Plain Street over Monatiquot River; one 19-foot span, reinforced concrete beam.
- Cambridge — Alewife Brook Traffic Road, two bridges over Boston and Maine Railroad; over Fitchburg Division two 158-foot through truss spans with two 40-foot steel stringer approach spans; and over Central Massachusetts Division one 87-foot span through plate girder with two 40-foot steel stringer approach spans.
- Charlton — State highway over Little River, one 17-foot span, reinforced concrete beam.
- Chelmsford — Billerica Road over River Meadow Brook; one 17-foot span, reinforced concrete slab.
- Cheshire — Savoy Road over Dry Brook; one 46-foot span, reinforced concrete beam.
- Chester — Jacobs Ladder Road over branch of Boston and Albany Railroad; one 40-foot span, reinforced concrete slab.
- Colrain — Shelburne Falls Road over brook; one 20-foot span, reinforced concrete beam.
- Gardner — Templeton Road over Otter River; one 16-foot span, reinforced concrete beam.
- Grafton — Worcester Street over Sunny Brook; one 11-foot span, reinforced concrete slab.
- Hopedale — West Street over Mill River at Milford line; one 12-foot span, reinforced concrete slab.
- Ludlow — West Street over Fuller Brook; one 28-foot span, reinforced concrete beam.
- Marion — Wareham Road over Weweantic River at Wareham line; two 49.7-foot spans, reinforced concrete beam.
- Maynard — Russell Bridge over Assabet River at Stow Line; two 23-foot and two 22-foot spans, reinforced concrete pile trestle.
- Monson — State Avenue over Quaboag River at Palmer line; one 44-foot and two 38-foot spans, reinforced concrete beam.
- Newbury — Main Street, Byfield, over Parker River; one 15-foot span, reinforced concrete beam.
- Newbury — Shore Road over Parker River; five 60-foot spans, reinforced concrete beam.
- Newton — Washington Street over Charles River at Wellesley line; two 40-foot and one 46-foot spans, reinforced concrete arch, granite faced.
- Northfield — Northfield Farms Road over Four Mile Brook; one 18-foot span, reinforced concrete beam.
- Paxton — North Spencer Road over Turkey Hill Brook; one 13-foot span, reinforced concrete slab.

- Petersham — Phillipston Road over Swift River; one 19-foot span, reinforced concrete slab.
- Rehoboth — Taunton-Providence Road over Palmer River; one 15-foot span, reinforced concrete slab.
- Sterling — Princeton Road over Stillwater River; one 30-foot span, reinforced concrete beam.
- Sturbridge — Holland Road over Quinebaug River; six 20-foot spans, reinforced concrete pile trestle.
- Wareham — Marion Road over Weweantic River; one 48-foot and two 43-foot spans, reinforced concrete beam.
- Westfield — Holyoke Road over Hampden Pond; one 9.5-foot span, reinforced concrete slab.
- Weymouth — Columbian Street over New York, New Haven and Hartford Railroad; one 53.5-foot span, steel plate girder.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES
COMPLETED IN 1929

Cities and Towns, Locality and Character of Work

- Andover — North Main Street over Shawsheen River; reinforced concrete extension of stone arch.
- Canton — Neponset Street over Canton River; reinforced concrete arch extension of stone arch.
- Charlemont — Mohawk Trail over Trout Brook; extension of reinforced concrete slab.
- Chester — Jacobs Ladder Road over Sanderson Brook; extension of reinforced concrete beam.
- Chester — Jacobs Ladder Road over branch of Walker Brook; reinforced concrete slab.
- Chester — Jacobs Ladder Road over Austin Brook; reinforced concrete slab extension of twin stone culvert.
- East Bridgewater — North Central Street over Matfield River; reinforced concrete beam extension of stone arch.
- Gardner — Templeton Road over Bents Pond and Travers Pond; extension of reinforced concrete beam.
- Gardner — Templeton Road over Wilder Brook; reinforced concrete slab extension.
- Gardner — Templeton Road over pond; reinforced concrete slab extension.
- Ludlow — Fuller Street over Stony Brook; reinforced concrete arch extension of stone arch.
- Medway — Main Street over Chicken Brook; reinforced concrete slab extension of stone arch.
- Plymouth — State highway over Beaver Dam Brook; reinforced concrete arch extension of stone arch.
- Rehoboth — Taunton-Providence Road over Palmer River; reinforced concrete slab extension of two stone arches.
- Seekonk — Taunton-Providence Road over Runnins River; reinforced concrete slab extension of reinforced concrete culvert.
- Warren — Brimfield Road over Tufts Brook; reinforced concrete slab extension.
- Wilbraham — Palmer-Springfield Road over Brook; reinforced concrete slab extension of stone arch.
- Williamstown — Pownal Road over Hoosic River; raising steel span at northerly abutment.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates made

Cities and Towns, Locality and Character of Structure

- Barre — State highway over Prince River; one 38-foot span, reinforced concrete beam.
- Bernardston — Northfield Road over Boston and Maine Railroad; one 41-foot and two 40-foot spans, reinforced concrete beam.

- Dalton — Windsor Road over Wahconah Brook; two 30-foot spans, reinforced concrete beam.
- Natick — West Central Street over Reservoir; repairs to two 5-foot spans and to two 7-foot spans, culverts.
- Newbury — Newburyport Turnpike over Parker River; one 38.5-foot, two 40.5-foot and one 42.5-foot spans, reinforced concrete beam extension of reinforced concrete beam.
- Newton — Western Artery at Weston line, Metropolitan Planning Division scheme; over Hobbs Brook, one 10-foot span, reinforced concrete slab; over Boston and Maine Railroad, Fitchburg Division, one 140-foot span, steel through truss; over Stony Brook, one 15-foot span, reinforced concrete slab; under Boston and Maine Railroad, Central Massachusetts Division, one 60-foot span, deck plate girder; over Charles River, one 160-foot span, steel arch and four approach spans.
- Oakham — Athol-Worcester Road over Pond; one 24-foot span, reinforced concrete beam extension of reinforced concrete beam.
- Oakham — Athol-Worcester Road over Brook; one 10-foot span, reinforced concrete arch extension of stone arch.
- Orange — Athol-Gardner Road over Mill Pond; extension of 16-foot span, reinforced concrete beam on northerly side.
- Orange — Athol-Gardner Road over Orcutt Brook; one 18-foot span, extension of reinforced concrete beam.
- Sandisfield — At New Boston Village over Farmington River; one 75-foot span, steel pony truss.
- Templeton — Athol-Gardner Road over Otter River; one 16-foot span, reinforced concrete slab extension of steel stringer.
- Tyngsborough — County Road over Merrimack River; one 550-foot span, steel through arch.
- Tyngsborough — County Road over Boston and Maine Railroad; one 65-foot span, steel girder.
- Weston — Central Avenue over Stony Brook at Waltham line; reconstruction of 2-span stone culvert with 15-foot span, reinforced concrete slab.
- Weston — Central Avenue over Boston and Maine Railroad, Fitchburg Division of Stony Brook Station; one 64-foot span, steel plate girder and two 35-foot approach spans, reinforced concrete beam.
- Williamstown — Williamstown-Pittsfield Road over Green River; one 41.9-foot span, reinforced concrete beam.
- Windsor — Berkshire Trail over Baldwin Brook; one 20-foot span, reinforced concrete beam.

Examinations, Reports, Estimates, etc., at Request of Cities and Towns

Towns, Locality and Character of Work

- Bellingham — Hartford Avenue over Charles River; examination, report and estimate for reinforced concrete slab.
- Berlin — Bridge Road over Assabet River; examination, report and estimates to replace 49.5-foot span, wrought iron pony truss.
- Billerica — Whipple Street over Shawsheen River at Wilmington line; examination and plans for 17-foot span, reinforced concrete slab.
- Chesterfield — At Huntington line over Westfield River; examination and report on 140-foot span, wrought iron through truss.
- Clinton — Hudson Road over Nashua River; Lancaster Mills Bridge; examination and report on 89-foot and 95-foot spans, double bow-string pony truss.
- Danvers — Maple Street over Boston and Maine Railroad, Lawrence Branch; examination and report on 40-foot span, wood stringer.
- Framingham — Concord Avenue over Sudbury River; examination and report on 60-foot span, through plate girder.
- Framingham — Irving Street over Beaver Dam Brook; examination and report on wood bridge and plans prepared for reinforced concrete slab to be built by town.

- Framingham — Second Street over Beaver Dam Brook; examination and report on 8-foot span culvert.
- Grafton — Millbury Road over Quinsigamond River; examination and report on 16-foot and 17-foot span, stone arch.
- Great Barrington — State highway over Housatonic River; examination and report on 92-foot span, pony parabolic truss.
- Lanesborough — Town Road over Housatonic River; report and sketch for 18-foot span, steel I beam with concrete floor.
- Marshfield — Humarock Bridge over North River at Scituate line; examination and report on timber pile trestle.
- Middlefield — At Worthington line; report on two 21.5-foot spans, wood stringer.
- Ware — Palmer Road over Ware River, Three Mile Bridge; examination and report on 82.5-foot span, iron pony truss.
- Washington — Valley Road over Branch of Housatonic River; examination and report on 24-foot span, wooden bridge.
- Westhampton — Kings Highway over North Branch Manhan River; examination and report on 20-foot span, wood stringer.

*Examinations, Reports, Estimates, etc., by direction of the Department
Cities and Towns, Locality and Subject*

- Charlemont — Mohawk Trail over Boston and Maine Railroad; studies and estimates for abolition of grade crossing.
- Dennis — South County Road over Swan Pond River; examination and report on 40-foot span, through still plate girder.
- Gloucester — Essex Street over inlet; examination of 14-foot span, wood stringer.
- Harwich — Lower County Road over Herring River; examination, report and estimate on replacement of 55-foot pile and timber trestle.
- Huntington — Over Westfield River; examination and report on feasibility of removal and relocation of Pitcher Bridge.
- Lawrence — Osgood Street, Boston and Maine Railroad; report on foot passageway.
- Middleborough — Grove Street over New York, New Haven and Hartford Railroad; examination and report on two 96-foot and 48-foot spans, plate girders.
- Needham — Needham Street over Charles River at Newton line; examination and report on repairs to 3-span, granite arch.
- Northfield — Mount Hermon Bridge over Connecticut River; examination and report on protection of piers.
- Oxford — West Sutton Road over brook; examination of stone arch.
- Sheffield — Studies for bridge and relocation of highway over New York, New Haven and Hartford Railroad and Konkapot River, at Ashley Falls.
- Sterling — State highway over Boston and Maine and New York, New Haven and Hartford railroads; report on repairs to 86-foot span, steel pony truss, and 35.8-foot span, wood stringer.
- Worcester Turnpike — Brookline to Worcester; preliminary studies for separation of grades of cross streets.

*Bridge Plans Submitted and Examined during the Year under the provisions of
Chapter 85, General Laws, as amended by Chapter 313, Acts of 1923*

Cities and Towns, Location, Character of Work and Date of Approval

- Auburn — Rockland Road; reinforced concrete slabs over Stoneville Brook and over Flume; approved July 2, 1929.
- Beverly — Bridge Street over Bass River; 146-foot plate girder draw span and 129-foot pile and timber approach spans; approved August 27, 1929.
- Bernardston — Town road over Mill Brook; reinforced concrete beam; approved July 23, 1929.
- Dalton — Old Windsor Road over Branch of Housatonic River; 38.3-foot span, plate girder with rubble concrete abutments; approved October 8, 1929.

- Leominster — Central Street over Monoosnock Brook; steel I beam and reinforced concrete extension to stone arch; approved August 13, 1929.
- Millbury — Greenwood Street over Blackstone River, one 50-foot span, steel girder with reinforced concrete slab deck; and over Greenwood Street Brook, one 17-foot span steel girder with reinforced concrete deck; approved August 20, 1929.
- Northampton — Water Street over Roberts Meadow Brook, one 30-foot span, reinforced concrete arch; Reservoir Road over Roberts Meadow Brook, one 20-foot span, reinforced concrete arch; Westhampton Road over Parsons Brook, steel stringer with jack arches and reinforced concrete floor; approved April 23, 1929.
- Northbridge — Uxbridge Road over West River; one 30-foot span, stone arch; approved March 5, 1929.
- Taunton — Spring Street over Mill River; two 23-foot spans, reinforced concrete beam and slab; approved July 30, 1929.
- Weymouth — Repairs and alterations to Back River Bridge of three fixed and one draw span, with a total length of 248 feet; approved March 12, 1929.
- Worcester — Millbury Street over Middle River; two 24-foot and one 25-foot spans, steel superstructure with reinforced concrete floor; approved April 30, 1929.

Legislative Resolves of 1927 and 1929. Examinations, Studies, Estimates and Reports on Bridges and Structures

Cities and Towns, Locality and Character of Work

- Chapter 38, Resolves of 1927. Examination and report on all bridges on main through routes of travel. See Senate No. 10, 1929.
- Revere — Chapter 23, Resolves of 1929. Examination, study and estimate for reconstruction of bridge at Point of Pines over Boston, Revere Beach and Lynn Railroad, 190-foot span.
- Revere — Chapter 25, Resolves of 1929. Examination, study and estimate for reconstruction of Saugus River Bridge.
- Revere — Chapter 44, Resolves of 1929. Approximate estimate for separation of grades of Broadway and Revere Beach Parkway.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1929, was 386. In 1928 the number of such openings was 365; in 1927 the number reached 200, and in 1926 amounted to 209.

The total expenditure during the year was \$5,144.53, including repairs to draw fender piers.

The total expenditure from 1912 to Nov. 30, 1929, inclusive, was \$143,311.60.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1929, was 1,789. In 1928 the number of such openings was 1,982; in 1927 the number reached 2,043; and in 1926 amounted to 1,617.

The total expenditure during the year was \$12,285.01, including strengthening and rebuilding entire bridge floor.

The total expenditure from 1912 to Nov. 30, 1929, inclusive, was \$312,736.84.

CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, chapter 90, General Laws, as revised by section 1, chapter 112, Acts of 1921, and by chapter 288, Acts of 1925, and by section 6, chapter 316, Acts of 1928.)

During the year the Department has contracted for work to be done in the towns named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length contracted for (Feet)
<i>Barnstable County</i>					
Bourne	\$7,050 00	\$6,000 00	\$7,050 00	Bituminous macadam	2,645
Brewster	15,000 00	7,500 00	7,500 00	Bituminous concrete	7,666
Dennis	20,000 00	10,000 00	10,000 00	Bituminous concrete	13,240
Harwich	8,000 00	5,000 00	5,000 00	Bituminous concrete	4,425
<i>Berkshire County</i>					
Alford	1,000 00	500 00	500 00	Gravel	800
Becket	1,000 00	1,000 00	1,000 00	Bridge and approaches	-
Becket	500 00	500 00	500 00	Gravel	500
Cheshire	3,000 00	2,700 00	2,700 00	Bridge and approaches	-
Cheshire	2,000 00	1,000 00	1,000 00	Gravel	1,700
Clarksburg	1,000 00	500 00	500 00	Gravel	7,000
Egremont	600 00	600 00	-	Gravel	550
Egremont	600 00	600 00	-	Gravel	550
Florida	2,500 00	2,500 00	-	Gravel	1,500
Great Barrington	6,000 00	6,000 00	-	Gravel	2,730
Hancock	1,000 00	500 00	1,000 00	Gravel	675
Monterey	4,000 00	1,000 00	4,000 00	Bituminous macadam	1,750
Mount Washington	1,500 00	500 00	1,000 00	Gravel	950
New Marlborough	1,500 00	1,500 00	1,500 00	Gravel	1,300
New Marlborough	3,000 00	2,000 00	1,000 00	Gravel	4,500
North Adams	37,000 00	37,000 00	-	Reinforced cement concrete and bituminous macadam	2,600
Otis	1,000 00	500 00	1,000 00	Gravel	550
Richmond	2,500 00	1,000 00	1,500 00	Gravel	1,550
Sandisfield	2,000 00	1,000 00	1,000 00	Gravel	1,200
Savoy	15,000 00	-	5,000 00	Hard pan	3,400
Sheffield	1,000 00	1,000 00	500 00	Gravel	750
Tyringham	2,000 00	1,000 00	1,000 00	Bituminous macadam	850
Washington	4,000 00	2,000 00	2,000 00	Gravel	2,200
West Stockbridge	6,000 00	3,000 00	3,000 00	Gravel	2,400
Williamstown	2,000 00	4,000 00	-	Gravel	1,717
Windsor	1,000 00	500 00	500 00	Gravel	629
Windsor	1,000 00	500 00	500 00	Gravel and hard pan	825
<i>Bristol County</i>					
Berkley	2,000 00	2,000 00	-	Repairs and oiling	29,700
Dighton	18,000 00	18,000 00	-	Bituminous macadam	4,900
Easton	2,500 00	2,500 00	-	Gravel	1,650
Freetown	1,000 00	1,500 00	-	Repairs and oiling	59,136
Freetown	6,000 00	2,000 00	6,000 00	Gravel	6,100
Norton	3,000 00	1,000 00	2,000 00	Gravel	1,800
Rehoboth	6,000 00	6,000 00	6,000 00	Waterbound macadam	3,450
Taunton	8,000 00	16,000 00	-	Bituminous macadam	2,934
Westport	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,500
<i>Dukes County</i>					
West Tisbury	25,000 00	2,500 00	7,500 00	Bituminous concrete	8,100
<i>Essex County</i>					
Amesbury	13,000 00	19,500 00	6,500 00	Gravel	17,350
Andover	57,000 00	50,000 00	50,000 00	Bridge and approaches	-
Beverly	7,500 00	15,000 00	7,500 00	Bituminous macadam	5,550
Boxford	12,750 00	2,250 00	7,500 00	Bituminous macadam	2,650
Boxford	1,500 00	1,500 00	1,500 00	Gravel	2,800
Boxford	1,500 00	1,500 00	1,500 00	Gravel	2,200
Danvers	5,000 00	5,000 00	5,000 00	Bituminous macadam	2,100
Essex	49,000 00	8,600 00	28,400 00	Bituminous macadam	11,772
Georgetown	23,000 00	4,000 00	13,000 00	Bituminous macadam	5,850
Haverhill	9,000 00	18,000 00	9,000 00	Bituminous macadam	3,435
Lawrence	3,500 00	7,000 00	3,500 00	Reinforced concrete	1,700
Lynnfield	10,000 00	10,000 00	10,000 00	Bituminous macadam	5,100
Methuen	4,000 00	5,000 00	4,000 00	Bituminous macadam	1,600
Middleton	3,000 00	3,000 00	3,000 00	Gravel	3,600
Newbury	5,600 00	5,600 00	5,600 00	Bridge and approaches	-
Peabody	6,250 00	12,500 00	6,250 00	Bituminous macadam	3,650
Rowley	1,000 00	1,000 00	1,000 00	Gravel	900
Rowley	500 00	500 00	-	Oiling	11,000
Salem	15,000 00	35,000 00	10,000 00	Bituminous macadam and reinforced cement concrete	4,518
Salisbury	2,500 00	2,500 00	2,500 00	Bituminous macadam	1,627
Saugus	2,300 00	2,300 00	2,300 00	Bituminous macadam	1,500
West Newbury	1,000 00	1,000 00	1,000 00	Gravel	800

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length contracted for (Feet)
<i>Franklin County</i>					
Ashfield	\$1,500 00	\$1,500 00	—	Gravel	1,000
Ashfield	1,500 00	1,500 00	—	Gravel	800
Ashfield	5,000 00	1,500 00	\$1,000 00	Gravel	2,200
Buckland	1,000 00	1,000 00	1,000 00	Bituminous macadam	862
Buckland	6,000 00	5,000 00	1,000 00	Bituminous macadam	3,400
Charlмонт	2,000 00	1,000 00	1,000 00	Gravel	1,500
Colrain	2,000 00	1,000 00	1,000 00	Gravel	2,200
Conway	2,500 00	1,500 00	1,000 00	Gravel	2,030
Deerfield	4,000 00	2,000 00	2,000 00	Bituminous macadam	1,700
Erving	500 00	500 00	—	Grading and oiling	1,900
Gill	2,000 00	1,000 00	1,000 00	Gravel	1,500
Gill	3,800 00	—	—	Repairs and oiling	35,611
Greenfield	7,500 00	7,500 00	2,000 00	Bituminous macadam	4,630
Hawley	1,400 00	700 00	700 00	Gravel	1,000
Hawley	1,400 00	700 00	700 00	Gravel	1,050
Heath	2,000 00	1,000 00	1,000 00	Gravel	2,400
Leverett	1,000 00	500 00	500 00	Gravel	5,000
Leyden	2,000 00	1,000 00	1,000 00	Gravel	1,200
Montague	18,000 00	18,000 00	1,000 00	Bituminous macadam	11,100
New Salem	2,000 00	1,000 00	1,000 00	Gravel	2,200
Northfield	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,300
Orange	1,000 00	2,000 00	1,000 00	Gravel	6,600
Orange	2,000 00	2,000 00	1,000 00	Gravel	2,500
Rowe	2,000 00	1,000 00	1,000 00	Gravel	1,600
Shelburne	2,000 00	2,000 00	1,000 00	Gravel	1,800
Shutesbury	2,000 00	1,000 00	1,000 00	Gravel	1,400
Sunderland	2,000 00	1,000 00	1,000 00	Gravel	1,400
Warwick	2,000 00	1,000 00	1,000 00	Gravel	1,500
Warwick	1,000 00	500 00	500 00	Culvert and approaches	—
Wendell	3,000 00	2,000 00	1,000 00	Gravel	2,100
Whately	160 00	160 00	—	Oiling	2,100
<i>Hampden County</i>					
Agawam	12,000 00	24,000 00	12,000 00	Bituminous macadam	9,950
Blandford	12,500 00	2,500 00	12,500 00	Bituminous macadam	3,450
Blandford	2,000 00	1,000 00	2,000 00	Oiling and bituminous macadam	5,250
Brimfield	4,000 00	2,000 00	4,000 00	Gravel and tar	3,000
Chester	1,500 00	500 00	1,500 00	Gravel	1,108
Chester	2,500 00	500 00	2,500 00	Gravel	1,400
Chester	5,000 00	500 00	5,000 00	Gravel	2,950
Chester	1,500 00	—	1,500 00	Gravel	1,150
East Longmeadow	2,500 00	2,500 00	2,500 00	Gravel	3,510
Granville	4,000 00	2,000 00	4,000 00	Gravel	2,766
Hampden	5,600 00	2,800 00	5,600 00	Bituminous macadam	3,400
Holland	3,300 00	1,000 00	3,300 00	Gravel	2,200
Holyoke	27,000 00	27,000 00	27,000 00	Bituminous macadam	10,567
Ludlow	4,800 00	4,800 00	4,800 00	Bridge and approaches	—
Ludlow	2,500 00	2,500 00	2,500 00	Bridge and approaches	—
Ludlow	2,500 00	2,500 00	2,500 00	Gravel	2,422
Monson	11,000 00	10,000 00	11,000 00	Bridge and approaches	—
Palmer	—	9,000 00	—	—	—
Montgomery	1,000 00	300 00	1,000 00	Gravel	800
Palmer	5,000 00	5,000 00	5,000 00	Gravel	3,300
Russell	3,000 00	3,000 00	3,000 00	Gravel	2,646
Southwick	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,350
Wales	1,000 00	500 00	1,000 00	Gravel	650
Westfield	4,000 00	5,000 00	4,000 00	Gravel	8,325
Westfield	27,000 00	27,000 00	27,000 00	Bridge and approaches	—
West Springfield	10,000 00	10,000 00	10,000 00	Bituminous macadam	4,476
Wilbraham	4,000 00	4,000 00	4,000 00	Bituminous macadam	2,770
<i>Hampshire County</i>					
Belchertown	6,000 00	2,000 00	2,000 00	Bituminous macadam	4,000
Belchertown	800 00	—	500 00	Repairs and oiling	15,576
Chesterfield	2,000 00	1,000 00	1,000 00	Gravel	1,200
Chesterfield	1,000 00	1,000 00	1,000 00	Gravel	1,250
Cummington	1,000 00	1,000 00	1,000 00	Gravel	800
Easthampton	5,000 00	5,000 00	3,000 00	Bituminous macadam	1,700
Enfield	5,600 00	—	500 00	Repairs and oiling	11,616
Goshen	2,400 00	1,200 00	1,200 00	Gravel	2,198
Granby	4,000 00	2,000 00	4,000 00	Bituminous macadam	1,800
Granby	2,003 00	1,000 00	1,000 00	Bituminous macadam	900
Greenwich	1,000 00	500 00	500 00	Gravel	1,155
Hadley	27,000 00	8,000 00	8,000 00	Bituminous macadam	20,076
Huntington	750 00	750 00	—	Bridge repairs	—
Huntington	1,000 00	500 00	500 00	Gravel	550
Middlefield	1,000 00	—	500 00	Gravel	375
Middlefield	1,000 00	500 00	500 00	Gravel	700
Middlefield	1,000 00	500 00	500 00	Gravel	500
Northampton	5,000 00	5,000 00	3,000 00	Gravel	5,750
Pelham	1,000 00	500 00	500 00	Gravel	1,500
South Hadley	1,500 00	1,500 00	1,500 00	Bituminous macadam	1,050
Westhampton	1,500 00	750 00	750 00	Gravel	1,300
Worthington	3,000 00	1,500 00	1,500 00	Gravel	950
<i>Middlesex County</i>					
Acton	1,500 00	1,500 00	1,500 00	Gravel	2,100
Acton	1,500 00	1,500 00	1,500 00	Gravel	1,425

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Middlesex County — Continued</i>					
Ashby	\$1,000 00	\$500 00	\$1,000 00	Repairs and oiling . .	17,952
Ashland	2,000 00	2,000 00	2,000 00	Repairs and oiling . .	15,312
Ashland	2,000 00	2,000 00	2,000 00	Bituminous macadam . .	3,000
Bedford	2,000 00	2,000 00	2,000 00	Bituminous macadam . .	890
Billerica	2,000 00	2,000 00	2,000 00	Gravel	1,450
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,200
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,280
Boxborough	750 00	750 00	750 00	Repairs and oiling . .	28,512
Burlington	6,000 00	3,000 00	6,000 00	Bituminous macadam . .	3,800
Burlington	2,000 00	2,000 00	1,000 00	Repairs and oiling . .	40,128
Burlington	3,000 00	3,000 00	3,000 00	Gravel	2,454
Carlisle	2,000 00	1,000 00	2,000 00	Gravel	2,100
Carlisle	8,000 00	4,000 00	8,000 00	Gravel	6,261
Chelmsford	3,000 00	3,000 00	3,000 00	Bituminous macadam . .	1,700
Chelmsford	1,000 00	1,000 00	1,000 00	Gravel	2,000
Chelmsford	2,500 00	2,500 00	2,500 00	Bridge and approaches . .	—
Concord	12,500 00	25,000 00	12,500 00	Bituminous macadam . .	9,600
Concord	450 00	900 00	450 00	Bituminous macadam . .	400
Dracut	1,000 00	1,000 00	1,000 00	Gravel	1,500
Dracut	3,000 00	3,000 00	3,000 00	Gravel	3,400
Dunstable	1,750 00	1,750 00	1,750 00	Repairs and oiling . .	41,184
Dunstable	2,000 00	1,000 00	2,000 00	Gravel	2,550
Frammingham	2,000 00	4,000 00	2,000 00	Bridge and approaches . .	—
Frammingham	2,750 00	5,500 00	2,750 00	Bituminous macadam and bituminous concrete . .	2,550
Groton	1,000 00	1,000 00	1,000 00	Repairs and oiling . .	16,368
Groton	7,000 00	7,000 00	7,000 00	Bituminous macadam . .	2,232
Holliston	1,500 00	1,500 00	1,500 00	Repairs and oiling . .	39,600
Holliston	1,000 00	1,000 00	1,000 00	Bituminous macadam . .	445
Holliston	3,500 00	3,500 00	3,500 00	Bituminous macadam . .	1,500
Hopkinton	2,000 00	2,000 00	2,000 00	Repairs and oiling . .	57,552
Hopkinton	4,000 00	2,000 00	4,000 00	Gravel and bituminous mac- adam	2,725
Hudson	15,000 00	15,000 00	15,000 00	Bituminous macadam . .	7,446
Lexington	2,200 00	2,200 00	2,200 00	Bituminous macadam . .	700
Lexington	13,000 00	13,000 00	13,000 00	Bituminous macadam . .	4,750
Lincoln	1,000 00	1,000 00	1,000 00	Repairs and oiling . .	36,960
Littleton	1,600 00	1,600 00	1,600 00	Repairs and oiling . .	39,072
Littleton	2,000 00	1,000 00	2,000 00	Gravel	2,200
Littleton	1,000 00	1,000 00	1,000 00	Gravel	1,400
Lowell	1,500 00	3,000 00	1,500 00	Bituminous macadam . .	800
Marlborough	8,000 00	8,000 00	8,000 00	Reinforced cement concrete . .	1,634
Marlborough	4,000 00	4,000 00	4,000 00	Bituminous macadam . .	1,245
Maynard	2,600 00	2,600 00	2,600 00	Bituminous macadam . .	450
Natick	3,500 00	3,500 00	3,500 00	Gravel	4,600
Newton	12,500 00	25,000 00	12,500 00	Bridge and approaches . .	—
North Reading	3,300 00	3,300 00	3,300 00	Bituminous macadam . .	2,500
North Reading	1,700 00	1,700 00	1,700 00	Repairs and oiling . .	44,880
Pepperell	4,000 00	4,000 00	4,000 00	Repairs and oiling . .	32,450
Pepperell	18,000 00	18,000 00	18,000 00	Gravel	19,120
Sherborn	2,000 00	2,000 00	2,000 00	Repairs and oiling . .	66,528
Sherborn	10,000 00	5,000 00	10,000 00	Bituminous macadam . .	4,500
Stoneham	12,000 00	12,000 00	12,000 00	Bituminous macadam . .	4,533
Stoneham	10,000 00	10,000 00	10,000 00	Bituminous macadam . .	2,550
Stow	2,500 00	2,500 00	2,500 00	Repairs and oiling . .	36,960
Sudbury	3,650 00	4,000 00	4,000 00	Repairs and oiling . .	79,728
Sudbury	1,000 00	1,000 00	1,000 00	Gravel	2,000
Tewksbury	1,000 00	1,000 00	1,000 00	Repairs and oiling . .	12,144
Tewksbury	1,000 00	1,000 00	1,000 00	Repairs and oiling and bitu- minous macadam . .	3,600
Townsend	9,250 00	3,000 00	9,250 00	Gravel	8,493
Townsend	1,000 00	1,000 00	1,000 00	Repairs and oiling . .	22,440
Tyngsborough	1,500 00	1,500 00	1,500 00	Repairs and oiling . .	41,184
Tyngsborough	4,000 00	2,000 00	4,000 00	Gravel	4,700
Wakefield	800 00	800 00	800 00	Bituminous macadam . .	650
Wakefield	6,000 00	6,000 00	6,000 00	Bituminous macadam . .	2,479
Watertown	20,000 00	20,000 00	20,000 00	Reinforced cement concrete . .	4,450
Wayland	2,000 00	4,000 00	2,000 00	Repairs and oiling . .	42,240
Wayland	6,000 00	6,000 00	6,000 00	Bituminous macadam . .	3,243
Westford	4,000 00	4,000 00	4,000 00	Gravel	4,700
Westford	2,500 00	2,500 00	2,500 00	Gravel	3,600
Westford	5,000 00	5,000 00	5,000 00	Repairs and oiling . .	70,224
Westford	4,000 00	4,000 00	4,000 00	Gravel	4,065
Weston	12,000 00	12,000 00	12,000 00	Bituminous macadam . .	2,855
Wilmington	750 00	750 00	750 00	Repairs and oiling . .	19,536
Wilmington	4,000 00	2,000 00	4,000 00	Bituminous macadam . .	1,500
Winchester	12,000 00	12,000 00	12,000 00	Bituminous macadam . .	4,900
Woburn	3,500 00	7,000 00	3,500 00	Bituminous macadam . .	2,000
<i>Nantucket County</i>					
Nantucket	10,000 00	10,000 00	—	Bituminous concrete . .	4,754
<i>Norfolk County</i>					
Avon	9,000 00	9,000 00	9,000 00	Bituminous macadam . .	3,699
Bellingham	2,650 00	1,325 00	1,325 00	Repairs and oiling . .	23,700
Bellingham	10,000 00	5,000 00	5,000 00	Gravel	4,930
Canton	6,000 00	6,000 00	6,000 00	Bituminous macadam . .	800

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length contracted for (Feet)
<i>Norfolk County — Continued</i>					
Canton	\$300 00	\$300 00	\$300 00	Gravel	348
Canton	10,000 00	20,000 00	10,000 00	Bituminous macadam	4,285
Foxborough	9,999 00	9,999 00	9,999 00	Bituminous macadam	5,100
Franklin	6,000 00	6,000 00	6,000 00	Gravel	6,150
Holbrook	14,000 00	14,000 00	14,000 00	Bituminous macadam	5,220
Medfield	10,000 00	5,000 00	5,000 00	Bituminous macadam	3,300
Medway	24,150 00	10,950 00	11,700 00	Bridge and approaches	—
Medway	1,000 00	1,000 00	1,000 00	Gravel	2,400
Millis	12,000 00	12,000 00	12,000 00	Bituminous macadam	5,650
Needham	7,500 00	15,000 00	7,500 00	Bituminous macadam	3,900
Norfolk	6,000 00	2,000 00	4,000 00	Gravel	4,900
Norfolk	1,000 00	1,000 00	1,000 00	Repairs and oiling	21,648
Randolph	10,000 00	7,500 00	7,500 00	Gravel	5,202
Sharon	800 00	800 00	800 00	Gravel	750
Sharon	5,000 00	5,000 00	5,000 00	Gravel	3,800
Wellesley	12,500 00	25,000 00	12,500 00	Bridge and approaches	—
Westwood	3,000 00	3,000 00	3,000 00	Bituminous macadam	2,450
<i>Plymouth County</i>					
Carver	4,000 00	2,000 00	—	Bituminous concrete	3,417
Duxbury	9,100 00	8,000 00	6,000 00	Bituminous concrete	5,935
East Bridgewater	23,000 00	46,000 00	—	Bridge and approaches	—
Hanson	6,000 00	3,000 00	3,000 00	Bituminous concrete	2,650
Hingham	17,000 00	17,000 00	17,000 00	Bituminous macadam	7,703
Kingston	11,500 00	7,500 00	11,000 00	Bituminous macadam	6,200
Lakeville	10,000 00	5,000 00	5,000 00	Bituminous macadam	3,910
Lakeville	1,000 00	2,000 00	—	Gravel	2,900
Pembroke	25,000 00	10,000 00	20,000 00	Bituminous macadam	10,858
Plympton	3,500 00	1,000 00	2,500 00	Gravel	5,600
<i>Worcester County</i>					
Athol	9,500 00	9,500 00	9,500 00	Bituminous macadam	3,224
Athol	2,100 00	800 00	800 00	Bituminous macadam	571
Berlin	5,500 00	3,500 00	5,500 00	Gravel	3,100
Berlin	2,000 00	2,000 00	2,000 00	Repairs and oiling	36,432
Blackstone	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,400
Bolton	25,450 00	4,100 00	16,450 00	Bituminous macadam	6,194
Boylston	32,750 00	1,500 00	24,750 00	Bituminous macadam	8,960
Brookfield	2,000 00	1,000 00	2,000 00	Gravel	2,800
Clinton	10,000 00	20,000 00	10,000 00	Bituminous macadam	6,750
Dana	2,500 00	1,000 00	2,500 00	Gravel	1,600
Dudley	800 00	800 00	—	Repairs and oiling	13,522
Gardner	12,500 00	25,000 00	12,500 00	Bridge and approaches	—
Gardner	5,500 00	11,000 00	5,500 00	Bituminous macadam	3,550
Hardwick	3,000 00	3,000 00	3,000 00	Bituminous macadam	2,494
Holden	5,000 00	5,000 00	5,000 00	Bituminous macadam	2,525
Hubbardston	1,000 00	500 00	1,000 00	Repairs and oiling	42,240
Hubbardston	2,000 00	1,000 00	2,000 00	Gravel	3,200
Lancaster	10,000 00	10,000 00	10,000 00	Bituminous macadam	5,350
Leicester	4,500 00	5,000 00	4,500 00	Gravel	2,900
Lunenburg	500 00	500 00	500 00	Repairs and oiling	6,525
Lunenburg	500 00	500 00	500 00	Repairs and oiling	3,696
Lunenburg	9,500 00	5,500 00	9,500 00	Gravel	8,100
Mendon	600 00	300 00	600 00	Repairs and oiling	16,484
Mendon	2,160 00	1,000 00	2,160 00	Gravel	2,000
Millford	10,000 00	10,000 00	10,000 00	Bituminous macadam	4,297
Millville	3,000 00	3,000 00	3,000 00	Gravel	2,300
New Braintree	2,000 00	1,000 00	2,000 00	Gravel	1,675
New Braintree	400 00	400 00	400 00	Gravel	4,846
Oakham	3,000 00	1,900 00	3,000 00	Gravel	2,500
Oxford	20,148 52	25,000 00	25,000 00	Bridge and approaches	—
Paxton	500 00	500 00	500 00	Gravel	600
Paxton	1,200 00	600 00	1,200 00	Bridge	—
Petersham	5,000 00	3,000 00	5,000 00	Bridge and approaches	1,500
Phillipston	9,000 00	2,000 00	9,000 00	Gravel	3,555
Princeton	900 00	400 00	900 00	Repairs and oiling	22,704
Princeton	4,000 00	2,000 00	4,000 00	Gravel	2,350
Princeton	400 00	—	110 00	Repairs and oiling	4,300
Royalston	6,000 00	3,000 00	6,000 00	Gravel	3,100
Rutland	4,000 00	2,000 00	4,000 00	Gravel	24,575
Southborough	3,100 00	3,100 00	3,100 00	Bituminous macadam	2,100
Spencer	5,000 00	5,000 00	5,000 00	Gravel and tar	4,200
Sterling	1,550 00	500 00	1,550 00	Repairs and oiling	25,872
Sterling	6,000 00	3,000 00	6,000 00	Bridge and approaches	—
Sutton	6,000 00	3,000 00	6,000 00	Bituminous macadam	5,600
Sutton	250 00	—	250 00	Repairs and oiling	1,300
Templeton	2,000 00	2,000 00	2,000 00	Repairs and oiling	14,256
Warren	3,300 00	3,300 00	3,300 00	Gravel	3,000
West Boylston	2,500 00	2,500 00	2,500 00	Gravel and tar	1,947
West Brookfield	2,000 00	1,000 00	2,000 00	Gravel	1,300
Westborough	10,000 00	10,000 00	10,000 00	Bituminous macadam	5,134
Westborough	10,000 00	10,000 00	10,000 00	Bituminous macadam	3,500
Westminster	1,800 00	—	1,800 00	Repairs and oiling	16,896
Westminster	2,000 00	1,000 00	2,000 00	Gravel	1,550
Westminster	250 00	—	610 00	Repairs and oiling	5,380

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$71,149.09	Hampshire, \$108,996.53
Berkshire, \$137,077.63	Middlesex, \$398,490.61
Bristol, \$52,223.76	Nantucket, \$12,279.78
Dukes, \$23,770.83	Norfolk, \$187,311.39
Essex, \$268,137.15	Plymouth, \$148,767.25
Franklin, \$124,257.94	Worcester, \$343,568.20
Hampden, \$173,055.75	Total, \$2,049,085.91

Details of the foregoing expenditures follow:—

Barnstable County.— Bourne, \$8,524.39; Brewster, \$18,466.00; Dennis, \$31,887.02; Harwich, \$12,271.68.

Berkshire County.— Alford, \$1,227.98; Becket, \$5,912.36; Cheshire, \$5,271.21; Clarksburg, \$1,227.60; Egremont, \$1,473.57; Florida, \$3,069.76; Great Barrington, \$7,330.53; Hancock, \$7,055.14; Hinsdale, \$184.20; Monterey, \$5,454.79; Mt. Washington, \$1,841.97; New Marlboro, \$5,076.80; No. Adams, \$27,525.49; Otis, \$7,343.10; Peru, \$11,062.29; Richmond, \$3,068.99; Sandisfield, \$2,455.96; Savoy, \$19,584.25; Sheffield, \$1,227.98; Tyringham, \$2,455.86; Washington, \$4,911.91; West Stockbridge, \$7,367.87; Williamstown, \$2,492.06; Windsor, \$2,455.96.

Bristol County.— Berkley, \$3,071.01; Dartmouth, \$1,976.05; Dighton, \$20,500.67; Easton, \$2,192.41; Freetown, \$8,741.50; Norton, \$3,683.93; Rehoboth, \$7,229.38; Taunton, \$2,372.85; Westport, \$2,455.96.

Dukes County.— West Tisbury, \$23,770.83.

Essex County.— Amesbury, \$11,921.10; Andover, \$51,660.59; Beverly, \$12,122.21; Boxford, \$14,915.87; Danvers, \$5,093.54; Essex, \$49,969.42; Georgetown, \$33,401.30; Hamilton, \$1,187.53; Haverhill, \$9,644.01; Lawrence, \$3,899.11; Lynnfield, \$18,661.50; Methuen, \$6,802.86; Middleton, \$3,683.93; Newbury, \$6,181.86; Peabody, \$10,039.34; Rowley, \$1,841.97; Salem, \$18,417.35; Salisbury, \$2,397.76; Saugus, \$2,957.29; West Newbury, \$3,338.61.

Franklin County.— Ashfield, \$20,414.55; Buckland, \$8,595.85; Charlemont, \$2,455.96; Colrain, \$4,519.48; Conway, \$3,246.33; Deerfield, \$4,911.91; Erving, \$613.99; Gill, \$7,122.27; Greenfield, \$8,441.80; Hawley, \$3,438.34; Heath, \$2,455.96; Leverett, \$1,227.98; Leyden, \$2,455.96; Montague, \$18,398.15; New Salem, \$2,455.96; Northfield, \$2,455.96; Orange, \$6,199.29; Rowe, \$2,455.96; Shelburne, \$2,455.96; Shutesbury, \$2,455.96; Sunderland, \$2,445.96; Warwick, \$11,144.89; Wendell, \$3,683.93; Whately, \$195.54.

Hampden County.— Agawam, \$8,938.21; Blandford, \$16,773.43; Brimfield, \$5,353.37; Chester, \$12,832.94; East Longmeadow, \$3,067.43; Granville, \$4,911.91; Hampden, \$6,876.68; Holland, \$3,522.99; Holyoke, \$15,603.83; Ludlow, \$10,218.45; Monson, \$9,207.69; Montgomery, \$1,227.95; Palmer, \$19,056.92; Russell, \$3,683.93; Southwick, \$3,069.94; Tolland, \$3,687.02; Wales, \$1,227.98; West Springfield, \$13,023.48; Westfield, \$25,901.00; Wilbraham, \$4,870.60.

Hampshire County.— Belchertown, \$8,349.94; Chesterfield, \$5,277.13; Cummington, \$1,906.55; Easthampton, \$4,898.18; Enfield, \$7,360.34; Goshen, \$5,391.36; Granby, \$7,367.87; Greenwich, \$1,227.98; Hadley, \$35,580.77; Huntington, \$1,764.12; Middlefield, \$5,076.96; Northampton, \$6,139.89; Pelham, \$1,227.97; Plainfield, \$7,650.66; So. Hadley, \$1,820.82; Westhampton, \$1,841.97; Williamsburg, \$207.00; Worthington, \$5,907.02.

Middlesex County.— Acton, \$2,789.71; Ashby, \$1,227.98; Ashland, \$4,905.35; Bedford, \$2,455.96; Billerica, \$8,434.47; Boxborough, \$3,559.86; Burlington, \$12,934.33; Carlisle, \$13,747.98; Chelmsford, \$7,980.31; Concord, \$13,171.55; Dracut, \$4,823.80; Dunstable, \$4,604.92; Framingham, \$5,831.67; Groton, \$8,850.27; Holliston, \$5,964.17; Hopkinton, \$7,367.87; Hudson, \$18,038.58; Lexington, \$17,175.87; Lincoln, \$1,227.98; Littleton, \$5,648.70; Lowell, \$11,114.45; Malden, \$952.97; Marlborough, \$13,857.10; Maynard, \$7,496.12; Medford, \$925.71; Natick, \$4,268.73; Newton, \$14,567.43; No. Reading, \$6,047.79; Pepperell, \$19,444.16; Sherborn, \$14,735.74; Stoneham, \$21,853.52; Stow, \$3,069.94; Sudbury, \$5,710.10; Tewksbury, \$2,455.96; Townsend, \$8,950.60; Tyngsborough,

\$6,753.88; Wakefield, \$6,446.70; Waltham, \$3,708.15; Watertown, \$21,279.63; Wayland, \$8,603.32; Westford, \$18,268.47; Weston, \$13,940.95; Wilmington, \$16,163.30; Winchester, \$13,507.76; Woburn, \$3,626.80.

Nantucket County.—Nantucket, \$12,279.78.

Norfolk County.—Avon, \$8,090.30; Bellingham, \$12,476.65; Canton, \$21,220.99; Dedham, \$23,306.90; Foxborough, \$11,245.03; Franklin, \$1,549.86; Holbrook, \$12,558.47; Medfield, \$11,615.92; Medway, \$24,308.79; Millis, \$12,665.20; Milton, \$1,097.22; Needham, \$5,419.58; Norfolk, \$4,282.57; Randolph, \$11,146.66; Sharon, \$8,159.99; Wellesley, \$14,567.43; Westwood, \$3,599.83.

Plymouth County.—Carver, \$4,780.52; Duxbury, \$12,851.18; East Bridgewater, \$28,243.50; Hanson, \$10,050.52; Hingham, \$11,232.48; Kingston, \$17,437.08; Lakeville, \$12,603.87; Mattapoisett, \$3,460.05; Pembroke, \$36,873.57; Plympton, \$4,297.54; Rochester, \$6,936.94.

Worcester County.—Athol, \$10,188.57; Berlin, \$12,803.34; Blackstone, \$2,790.32; Bolton, \$31,765.44; Boylston, \$33,417.60; Brookfield, \$2,455.96; Clinton, \$9,781.68; Dana, \$3,069.54; Dudley, \$805.71; Gardner, \$18,729.90; Hardwick, \$5,054.73; Holden, \$6,205.99; Hubbardston, \$3,683.58; Lancaster, \$12,427.10; Leicester, \$3,966.12; Lunenburg, \$9,550.40; Mendon, \$2,571.88; Milford, \$9,402.26; Millville, \$4,851.48; New Braintree, \$2,392.95; Oakham, \$2,719.45; Oxford, \$21,630.97; Paxton, \$2,087.56; Petersham, \$6,162.78; Phillipston, \$9,237.13; Princeton, \$13,058.32; Royalston, \$7,003.61; Rutland, \$4,911.91; Southborough, \$3,852.79; Spencer, \$5,812.28; Sterling, \$7,343.82; Sutton, \$20,530.13; Templeton, \$2,455.96; Upton, \$8,756.89; Warren, \$3,415.28; West Boylston, \$3,276.05; West Brookfield, \$1,781.88; Westborough, \$13,443.38; Westminster, \$20,173.46.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended with reference to section 26 by section 1 of chapter 120, Acts of 1922, and by chapter 315, Acts of 1926.)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Barnstable County:</i>			
Brewster	40	\$4,000 00	\$4,000 00
Dennis	80	8,000 00	8,000 00
Eastham	41	4,100 00	3,075 00
Mashpee	27	2,700 00	2,025 00
Sandwich	67	6,700 00	5,025 00
Truro	27	2,700 00	2,025 00
Wellfleet	35	3,500 00	3,500 00
<i>Berkshire County:</i>			
Alford	20	2,000 00	800 00
Becket	58	5,800 00	2,320 00
Cheshire	42	4,200 00	4,200 00
Egremont	31	3,100 00	2,325 00
Florida	42	4,200 00	3,150 00
Hancock	30	3,000 00	1,500 00
Hinsdale	35	3,500 00	2,625 00
Lanesborough	39	3,900 00	2,925 00
Monterey	53	5,300 00	2,120 00
Mount Washington	20	2,000 00	500 00
New Ashford	9	900 00	360 00
New Marlborough	85	8,500 00	3,400 00
Otis	48	4,800 00	1,200 00
Peru	37	3,700 00	555 00

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Berkshire County — Con.</i>			
Richmond	34	\$3,400 00	\$1,700 00
Sandisfield	79	7,900 00	1,185 00
Savoy	56	5,600 00	840 00
Sheffield	77	7,700 00	3,850 00
Tyringham	25	2,500 00	1,250 00
Washington	51	5,100 00	765 00
West Stockbridge	36	3,600 00	2,700 00
Windsor	66	6,600 00	990 00
<i>Bristol County:</i>			
Berkley	42	4,200 00	2,100 00
Freetown	47	4,700 00	4,700 00
Norton	57	5,700 00	7,125 00
Raynham	45	4,500 00	4,500 00
Rehoboth	109	10,900 00	5,450 00
<i>Dukes County:</i>			
Chilmark	14	1,400 00	1,400 00
West Tisbury	12	1,200 00	1,800 00
<i>Essex County:</i>			
Boxford	52	5,200 00	2,600 00
Essex	21	2,100 00	3,150 00
Georgetown	34	3,400 00	4,250 00
Groveland	30	3,000 00	4,500 00
Merrimac	31	3,100 00	4,650 00
Middleton	30	3,000 00	3,750 00
Newbury	36	3,600 00	5,400 00
Rowley	31	3,100 00	3,875 00
Topsfield	38	3,800 00	5,700 00
West Newbury	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield	82	8,200 00	3,280 00
Bernardston	41	4,100 00	2,050 00
Buckland	45	4,500 00	6,750 00
Charlemont	50	5,000 00	3,750 00
Colrain	84	8,400 00	4,200 00
Conway	76	7,600 00	1,900 00
Gill	36	3,600 00	2,700 00
Hawley	49	4,900 00	735 00
Heath	54	5,400 00	810 00
Leverett	38	3,800 00	1,520 00
Leyden	41	4,100 00	615 00
Monroe	18	1,800 00	2,700 00
Northfield	68	6,800 00	5,100 00
New Salem	64	6,400 00	1,600 00
Rowe	41	4,100 00	2,050 00
Shelburne	48	4,800 00	6,000 00
Shutesbury	40	4,000 00	1,000 00
Sunderland	34	3,400 00	3,400 00
Warwick	55	5,500 00	1,375 00
Wendell	48	4,800 00	2,400 00
<i>Hampden County:</i>			
Blandford	83	8,300 00	2,075 00
Brimfield	60	6,000 00	3,000 00
Chester	66	6,600 00	4,950 00
Granville	73	7,300 00	1,825 00
Hampden	34	3,400 00	1,700 00
Holland	30	3,000 00	450 00
Montgomery	27	2,700 00	675 00

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Hampden County — Con.</i>			
Southwick	50	\$5,000 00	\$3,750 00
Tolland	41	3,050 00	615 00
Wales	25	2,500 00	1,250 00
Wilbraham	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown	115	11,500 00	4,600 00
Chesterfield	59	5,900 00	885 00
Cummington	49	4,900 00	1,225 00
Enfield	37	3,700 00	1,480 00
Goshen	28	2,800 00	1,120 00
Hadley	58	5,800 00	7,250 00
Granby	48	4,800 00	2,400 00
Greenwich	39	3,900 00	975 00
Huntington	39	3,900 00	3,900 00
Hatfield	47	4,700 00	7,050 00
Middlefield	38	3,800 00	570 00
Pelham	40	4,000 00	1,600 00
Plainfield	49	4,900 00	735 00
Prescott	39	3,900 00	585 00
Southampton	56	5,600 00	2,240 00
Westhampton	50	5,000 00	750 00
Williamsburg	43	4,300 00	4,300 00
Worthington	73	7,300 00	1,095 00
<i>Middlesex County:</i>			
Acton	58	5,800 00	7,250 00
Ashby	57	5,700 00	2,850 00
Ashland	38	3,800 00	5,700 00
Bedford	36	3,600 00	5,400 00
Boxborough	23	2,300 00	920 00
Burlington	32	3,200 00	4,800 00
Carlisle	43	4,300 00	1,720 00
Dunstable	36	3,600 00	900 00
Holliston	50	5,000 00	7,500 00
Hopkinton	66	6,600 00	6,600 00
Lincoln	40	4,000 00	6,000 00
Littleton	42	4,200 00	5,250 00
North Reading	29	2,900 00	4,350 00
Pepperell	68	6,800 00	8,500 00
Sherborn	42	4,200 00	4,200 00
Shirley	46	4,600 00	5,750 00
Stow	45	4,500 00	3,375 00
Sudbury	61	6,100 00	6,100 00
Tewksbury	55	5,500 00	8,250 00
Townsend	70	7,000 00	5,250 00
Tyngsborough	41	4,100 00	3,075 00
<i>Norfolk County:</i>			
Bellingham	42	4,200 00	6,300 00
Medfield	40	4,000 00	6,000 00
Medway	44	4,400 00	6,600 00
Millis	38	3,800 00	5,700 00
Norfolk	40	4,000 00	4,000 00
Plainville	34	3,400 00	4,250 00
Wrentham	46	4,600 00	6,900 00
<i>Plymouth County:</i>			
Carver	67	6,700 00	6,700 00
Halifax	33	3,300 00	3,300 00
Hanson	36	3,600 00	5,400 00

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Plymouth County — Con.</i>			
Lakeville	45	\$4,500 00	\$3,375 00
Norwell	47	4,700 00	4,700 00
Pembroke	47	4,700 00	5,875 00
Plympton	30	3,000 00	1,500 00
Rochester	49	4,900 00	3,675 00
West Bridgewater	39	3,900 00	5,850 00
<i>Worcester County:</i>			
Ashburnham	77	7,700 00	5,775 00
Berlin	39	3,900 00	2,925 00
Bolton	53	5,300 00	2,650 00
Boylston	40	4,000 00	2,000 00
Brookfield	36	3,600 00	3,600 00
Charlton	107	10,700 00	5,350 00
Dana	43	4,300 00	1,720 00
Douglas	70	7,000 00	5,250 00
East Brookfield	19	1,900 00	2,375 00
Harvard	56	5,600 00	5,600 00
Hardwick	86	8,600 00	8,600 00
Holden	76	7,600 00	9,500 00
Hubbardston	75	7,500 00	1,875 00
Lancaster	59	5,900 00	7,375 00
Lunenburg	66	6,600 00	4,950 00
Mendon	36	3,600 00	2,700 00
New Braintree	49	4,900 00	1,225 00
North Brookfield	69	6,900 00	6,900 00
Northborough	47	4,700 00	4,700 00
Oakham	45	4,500 00	1,125 00
Oxford	63	6,300 00	7,875 00
Paxton	29	2,900 00	2,175 00
Petersham	71	7,100 00	5,325 00
Phillipston	41	4,100 00	1,025 00
Princeton	72	7,200 00	2,880 00
Royalston	68	6,800 00	2,720 00
Rutland	68	6,800 00	3,400 00
Southborough	48	4,800 00	7,200 00
Sterling	72	7,200 00	5,400 00
Sturbridge	74	7,400 00	2,960 00
Sutton	84	8,400 00	4,200 00
Templeton	64	6,400 00	8,000 00
Upton	60	6,000 00	4,500 00
West Boylston	35	3,500 00	4,375 00
West Brookfield	53	5,300 00	3,975 00
Westminster	77	7,700 00	3,850 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were: —

Barnstable, \$33,992.20	Hampden, \$63,247.62
Berkshire, \$129,039.92	Hampshire, \$101,376.38
Bristol, \$32,941.13	Middlesex, \$103,050.88
Dukes, \$2,578.97	Norfolk, \$30,740.17
Essex, \$37,201.52	Plymouth, \$43,106.94
Franklin, \$108,099.31	Worcester, \$233,548.13
	Total, \$918,923.17

Details of the foregoing expenditures follow: —

Barnstable County. — Brewster, \$4,501.95; Dennis, \$8,290.19; Eastham, \$4,259.82; Harwich, \$329.41; Mashpee, \$2,942.61; Sandwich, \$7,576.41; Truro, \$2,741.96; Wellfleet, \$3,184.31; Yarmouth, \$165.54.

Berkshire County.—Alford, \$2,196.07; Becket, \$8,338.92; Cheshire, \$5,122.73; Egremont, \$4,538.78; Florida, \$8,839.94; Hancock, \$2,052.95; Hinsdale, \$4,311.40; Lanesborough, \$5,007.19; Monterey, \$6,799.70; Mount Washington, \$2,676.13; New Ashford, \$964.72; New Marlborough, \$10,434.84; Otis, \$6,987.95; Peru, \$4,922.01; Richmond, \$3,922.88; Sandisfield, \$8,674.51; Savoy, \$6,129.17; Sheffield, \$14,902.69; Tyringham, \$2,924.99; Washington, \$6,401.13; West Stockbridge, \$4,741.66; Windsor, \$8,149.56.

Bristol County.—Berkley, \$4,611.76; Freetown, \$5,160.78; Norton, \$6,258.81; Raynham, \$4,941.17; Rehoboth, \$11,968.61.

Dukes County.—Chilmark, \$1,480.94; West Tisbury, \$1,098.03.

Essex County.—Boxford, \$5,709.80; Essex, \$2,239.99; Georgetown, \$3,733.33; Groveland, \$3,294.12; Merrimac, \$3,403.91; Middleton, \$3,294.12; Newbury, \$3,887.05; Rowley, \$3,403.91; Topsfield, \$4,172.55; West Newbury, \$4,062.74.

Franklin County.—Ashfield, \$9,525.48; Bernardston, \$4,501.96; Buckland, \$4,941.17; Charlemont, \$5,709.80; Colrain, \$8,894.11; Conway, \$7,025.05; Gill, \$3,074.51; Hawley, \$5,325.49; Heath, \$5,325.49; Leverett, \$4,172.55; Leyden, \$4,501.96; Monroe, \$1,976.47; New Salem, \$7,027.38; Northfield, \$6,862.74; Rowe, \$4,447.05; Shelburne, \$5,599.99; Shutesbury, \$4,392.16; Sunderland, \$3,541.06; Warwick, \$6,039.21; Wendell, \$5,215.68.

Hampden County.—Blandford, \$11,506.35; Brimfield, \$6,527.39; Chester, \$10,397.47; Granville, \$8,043.13; Hampden, \$3,733.33; Holland, \$3,242.03; Montgomery, \$2,986.91; Southwick, \$5,517.64; Tolland, \$3,820.96; Wales, \$2,750.85; Wilbraham, \$4,721.56.

Hampshire County.—Belchertown, \$12,352.93; Chesterfield, \$6,588.23; Cummington, \$5,407.83; Enfield, \$3,870.59; Goshen, \$3,129.41; Granby, \$5,270.58; Greenwich, \$4,282.35; Hadley, \$6,286.27; Hatfield, \$5,023.53; Huntington, \$5,073.29; Middlefield, \$4,835.34; Pelham, \$4,392.16; Plainfield, \$5,380.39; Prescott, \$4,117.64; Southampton, \$6,148.80; Westhampton, \$5,215.68; Williamsburg, \$4,776.23; Worthington, \$9,225.13.

Middlesex County.—Acton, \$6,368.62; Ashby, \$6,258.81; Ashland, \$4,172.55; Bedford, \$3,952.94; Boxborough, \$1,592.15; Burlington, \$3,513.72; Carlisle, \$4,721.56; Dunstable, \$3,952.94; Holliston, \$5,490.19; Hopkinton, \$7,247.05; Lincoln, \$4,392.15; Littleton, \$4,611.76; No. Reading, \$3,184.32; Pepperell, \$5,929.41; Sherborn, \$4,611.76; Shirley, \$5,050.98; Stow, \$4,941.17; Sudbury, \$5,490.19; Tewksbury, \$6,039.21; Townsend, \$7,686.27; Tyngsborough, \$3,843.13.

Norfolk County.—Bellingham, \$4,611.76; Medfield, \$4,392.16; Medway, \$4,387.24; Millis, \$4,172.55; Norfolk, \$4,392.16; Plainville, \$3,733.33; Wrentham, \$5,050.97.

Plymouth County.—Carver, \$7,981.70; Halifax, \$3,593.63; Hanson, \$4,188.21; Lakeville, \$4,719.27; Norwell, \$4,174.47; Pembroke, \$5,418.46; Plympton, \$3,257.52; Rochester, \$5,353.32; West Bridgewater, \$4,483.36.

Worcester County.—Ashburnham, \$8,454.90; Berlin, \$3,680.91; Bolton, \$5,819.61; Boylston, \$4,392.16; Brookfield, \$3,339.79; Charlton, \$12,314.94; Dana, \$4,940.34; Douglas, \$7,686.26; East Brookfield, \$2,034.68; Hardwick, \$9,443.12; Harvard, \$6,149.01; Holden, \$7,994.24; Hubbardston, \$8,235.29; Lancaster, \$6,478.42; Lunenburg, \$7,247.06; Mendon, \$3,507.18; New Braintree, \$5,380.39; No. Brookfield, \$8,235.78; Northboro, \$5,160.78; Oakham, \$4,941.17; Oxford, \$6,917.64; Paxton, \$3,318.38; Petersham, \$7,790.80; Phillipston, \$4,501.96; Princeton, \$7,905.88; Royalston, \$7,466.66; Rutland, \$7,879.62; Southboro, \$5,270.58; Sterling, \$7,905.87; Sturbridge, \$8,374.23; Sutton, \$9,223.53; Templeton, \$6,250.55; Upton, \$6,701.84; West Boylston, \$4,002.36; West Brookfield, \$5,996.50; Westminster, \$8,605.70.

CONTRACTS FOR THE CONSTRUCTION OF STATE HIGHWAYS IN ANTICIPATION OF AN APPROPRIATION

In November, 1929, preparations were made for advertising contracts under the provisions of section 27, chapter 29, General Laws, as amended by chapter 387, Acts of 1923, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$1,633,750.00, this amount being twenty-five per cent of the appropriation.

tion of \$6,535,000.00 for the fiscal year ending Nov. 30, 1928. The making of these contracts as aforesaid was approved by the Governor and Council Nov. 6, 1929.

REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER OF 1928-1929

As provided in section 30, chapter 85, General Laws, as amended by chapter 526, Acts of 1922, and by chapters 180 and 342, Acts of 1925, regulations were adopted on Jan. 30, 1929, and public notice thereof given, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain State highways without a permit therefor during the season. The regulations were in effect in the following counties during the periods stated: —

Barnstable County, Feb. 18 to Mar. 26, 1929.

Bristol County, Feb. 18 to Apr. 9, 1929.

Norfolk County, Feb. 18 to Apr. 9, 1929.

Plymouth County, Feb. 25 to Mar. 26, 1929.

Hampden County, Feb. 25 to Apr. 9, 1929.

Essex County, Mar. 1 to Apr. 9, 1929.

Middlesex County, Mar. 1 to Apr. 9, 1929.

Worcester County, Mar. 1 to Apr. 9, 1929, for Route 20 and roads to the south thereof; and to Apr. 23, 1929, for balance of roads in said county.

Hampshire County, Mar. 4 to Apr. 22, 1929.

Berkshire County, Mar. 4 to Apr. 29, 1929.

Franklin County, Mar. 4 to Apr. 29, 1929.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance has developed in importance beyond the amount of attention given a few years ago, because it is recognized that a systematic and intelligent control and development of all features of the roadside conditions is of value not only from the point of view of appearance but more particularly from the point of view of public safety. Telegraph, telephone and power lines or any other structures are not allowed within the highway layouts without permission from the Department.

The Department maintains as part of its organization a group of trained men to remove or trim trees, brush and undesirable growth, to remove growth that may obstruct vision at curves, intersections, or other points on the highway in order to render the operating conditions as safe as this factor may produce, and also with the idea of opening up vistas and other clearings at points of advantage. Careful consideration is given to the preservation and appearance of all growth within the layout, retaining such as is desirable and of keeping the roadsides clean. Any work of locating pole lines and of tree trimming by public service corporations within the layout is done wholly under supervision of the Department. In connection with all this work, there are three nurseries maintained in which the types of trees and shrubs suitable for use on the roadsides in Massachusetts are grown and made available for use by the Department.

During the past twenty-five years in which the State has conducted this work, 58,104 trees have been planted on the borders of the State highways. During this year the Department placed 1,977 trees and has continued the policy of planting quick growing trees and hedges in place of guard rails at suitable locations.

UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 357, Acts of 1928.

The purpose of this act was to establish throughout the cities and towns basic uniformity in signs, signals and devices for the control of traffic on ways within the Commonwealth and to provide for the safe and expeditious movement of through traffic upon the State highway routes. This authority makes it possible for the Department to insure that all traffic control signals to be erected by the municipalities shall be properly located and operated as aids to traffic flow rather than causing obstruction to such movement and also makes possible the proper protection of through routes from dangerous interference from cross traffic by the use, where necessary, of the "through-way-stop" regulation.

In order to carry out the provisions of this act, the Department organized last year a traffic engineering section. During this year the section has been engaged in the investigation of the traffic control signal installations, signs and regulations desired to be installed and maintained by the cities and towns, and on all traffic matters for the Department. This section also made the traffic study to determine the volume, classes and direction of traffic on the highways.

During the present year a second bulletin was issued by the Department and designated "Bulletin No. 2. A standard Code for Traffic Signal Installation and Operation." This code provides a uniform basis for all traffic control signals in use by the Commonwealth, and is the standard required to be met by cities and towns when requesting approval by the Department of such signals which they desire to install and maintain.

The Department has installed one traffic control signal, namely, — at Pope's Corner, Danvers, on the Newburyport Turnpike (Route 1) at its intersection with Andover Street (Route 114). This installation is of the traffic actuated type.

PERMITS TO COMMON CARRIERS OF PASSENGERS BY MOTOR VEHICLES

In accordance with sections 48A and 48B of chapter 280, Acts of 1925, which amends chapter 159, General Laws, 49 permits were granted during the year.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29–33, chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33, inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits. — Licenses were granted to 37 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 1,500 applications received for permits for the erection of advertising signs, 951 permits have been granted; and 203 permits were granted on applications filed previous to 1929. Two hundred and thirty-two applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 12 applications for permits were cancelled.

Of 2,784 renewal applications sent to those whose permits were to expire June 30, 1929, 2,568 were returned to the Department requesting renewal; and 131 requested that permits be cancelled. The number of renewal applications approved, to be in force until June 30, 1930, was 2,702. The total number of permits in force November 30, 1929, was 3,507.

Receipts and Expenditures. — The total receipts for the year ending Nov. 30, 1929, were \$17,495.13, and the expenditures were \$14,503.20.

Removal of Signs. — The regular work in the removal of signs has been carried on during the year, and 21,500 signs have been removed by the Department under authority of section 30-A, chapter 93, General Laws, from locations within the highways and from private property.

Injunction. — On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the rules and regulations for the control and restriction of the billboards, signs and other devices promulgated under date of January 24, 1924. This injunction is still in force and will be until the case is settled in Court.

Hearings. — Hearings were given to officials of Kingston, Mansfield, Melrose, Norwood, Walpole, Watertown and Winchester, who had objected to the granting of permits for advertising signs in their respective towns and cities.

CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Acton	John J. Watkins	\$0 60	\$0 65	\$3 00	\$0 90	\$18 00	\$0 07	-
Agawam	The Lane Constr. Corp.	0 45	-	3 00	0 75	20 00	0 095	-
Amesbury	R. G. Watkins & Son	0 55	0 60	2 50	0 90	18 00	-	\$0 14
Amesbury	John J. Watkins	0 90	-	-	-	-	0 11	-
Andover	J. P. McCabe, Inc.	0 65	-	3 00	1 25	15 00	0 10	-
Athol	Perini & Ampollini	0 50	-	3 00	1 50	-	0 12	-
Attleborough, Norton, Mansfield	Arute Bros., Inc.	0 60	0 75	2 50	1 00	22 00	0 10	-
Avon	Powers Bros.	0 70	0 75	2 00	1 00	20 00	0 11	-
Barnstable	Ashley & Loring	0 75	0 75	5 00	1 50	25 00	0 20	-
Bedford	Lawton Const. Co.	0 55	-	4 00	1 00	-	0 10	-
Bellingham	W. H. Hinman, Inc.	0 55	0 55	3 00	1 00	20 00	-	0 11
Beverly	J. Iafoia	0 55	-	2 50	1 00	20 00	0 09	-
Blandford	Warner Bros. & Goodwin	1 00	-	3 00	1 50	30 00	-	0 15
Bolton	Frank Lanza & Sons	0 55	0 50	2 00	1 00	20 00	0 105	-
Bourne	M. F. Roach & Sons, Inc.	0 70	-	5 00	1 00	25 00	0 125	-
Boxford	Frank Lanza & Sons	0 45	0 60	2 00	1 00	20 00	0 10	-
Boylston-Clinton	Chas. E. Horne	0 58	0 58	2 50	1 25	20 00	0 105	-
Brewster	S. W. Lawrence	0 60	0 60	4 00	1 00	20 00	0 20	-
Braintree, Weymouth, Hingham	Peerless Const. Co.	0 50	0 65	2 00	1 00	15 00	0 085	-
Brimfield	A. G. Bianchi Cons. Co.	0 70	0 85	3 00	1 00	25 00	-	0 16
Burlington	John A. Gaffey	0 75	1 00	3 00	1 00	20 00	0 10	-
Cambridge	Coleman Bros., Inc.	1 00	0 89	3 00	2 00	25 00	0 10	-
Canton	Reynolds Bros., Inc.	0 60	0 60	4 00	1 25	20 00	0 10	-
Canton	Reynolds Bros., Inc.	1 40	-	1 40	1 40	20 00	0 105	-
Carlisle	Lawton Const. Co.	0 65	0 65	2 50	1 00	20 00	0 08	-
Charlton-Oxford	C. Bianchi & Co., Inc.	0 50	0 50	2 25	1 15	25 00	0 115	-
Charlton-Sturbridge	The Lane Const. Corp.	0 75	-	2 00	0 75	22 00	0 10	-
Chelsea	F. J. McCarthy Cont. Co.	0 65	-	5 00	1 20	20 00	0 095	-
Cheshire	C. B. Lindholm	1 00	1 00	5 00	-	-	-	-
Chester	The Lane Const. Corp.	0 60	0 50	3 00	1 75	22 00	0 10	-
Colrain-Shelburne	Perini & Ampollini	0 70	0 70	5 00	1 25	20 00	0 11	-
Concord	Greenough Const. Co.	0 80	-	0 80	1 00	20 00	0 10	-
Danvers	McCarthy Bros.	0 90	0 90	3 00	1 15	20 00	0 10	-
Danvers-Topsfield, Ipswich	Lawton Const. Co.	0 55	-	2 50	1 00	20 00	0 09	-
Dennis	Amos D. Bridges & Sons	0 50	0 60	0 50	1 00	20 00	0 20	-
Dennis	Washburn & Sheridan	0 65	0 65	5 00	1 50	20 00	0 20	-
Dedham	Perini & Ampollini	0 35	0 50	10 00	1 00	18 00	0 085	-
Dighton	Z. L. Canedy	0 75	-	4 00	1 50	20 00	0 12	-
Duxbury	Otis R. Mann	0 60	0 60	5 00	1 00	20 00	0 18	-
East Bridgewater	Frank Lanza & Sons	0 45	-	2 00	1 00	18 00	0 10	-
Easthampton	Warner Bros. & Goodwin	0 50	0 50	2 00	1 00	25 00	0 10	-
Easton-Sharon	C. Frangioso & Sons	0 55	0 60	4 00	1 25	20 00	-	0 12
Erving	Ralph E. Bull	0 75	0 75	2 00	1 00	18 00	0 11	-
Erving-Northfield	Kelleher Corp.	0 50	0 50	2 50	1 25	22 00	0 115	-
Essex	Octavius Menici	0 57	-	2 75	1 25	18 00	0 095	-
Falmouth	M. F. Roach & Sons	0 57	-	0 57	1 00	20 00	0 20	-
Florida-Savoy, Charlemon	D'Onfro Bros., Inc.	1 25	0 70	-	1 25	20 00	0 13	-
Foxborough	Dominic G. DiPietro	0 65	0 65	0 65	-	-	0 11	-
Framingham-Southborough	Middlesex Const. Co.	0 60	0 75	2 00	1 15	20 00	0 105	-
Franklin	Perini & Ampollini	0 40	1 00	3 00	1 00	15 00	-	0 12
Freetown	Roger T. Fay, Inc.	0 50	0 75	2 00	1 00	-	-	0 14
Gardner	Fitchburg Conc. Const. Co.	0 80	0 80	5 00	1 25	20 00	0 11	-
Gardner	H. & J. P. Green Co.	0 75	0 80	3 00	1 25	25 00	0 12	-
Georgetown	Frank Lanza & Sons	0 63	-	2 00	1 00	22 00	0 10	-
Gloucester	Welch & Moynihan	0 80	-	3 75	1 50	25 00	0 105	-
Gloucester	Welch & Moynihan	1 00	-	3 75	1 15	20 00	0 11	-
Grafton-Millbury	Hagan, Thibodeau Const. Co.	0 70	0 50	5 00	1 30	22 00	0 12	-
Greenfield	Kelleher Corp.	0 50	0 50	3 00	1 25	22 00	0 105	-
Greenfield	Kelleher Corp.	0 50	-	2 50	1 25	25 00	0 11	-
Groton	Antonio Pallato	0 50	-	4 00	0 75	30 00	0 11	-
Hadley	Warner Bros. & Goodwin, Inc.	1 50	0 70	5 00	1 25	25 00	0 11	-
Hadley	Warner Bros. & Goodwin, Inc.	0 50	-	5 00	1 00	25 00	0 10	-
Hanson	Washburn & Sheridan	1 00	1 00	5 00	1 50	25 00	0 20	-
Hardwick	A. G. Bianchi & Co., Inc.	0 75	-	3 00	1 00	25 00	0 11	-
Harwich	Otis R. Mann	0 75	0 75	3 00	1 00	25 00	0 18	-
Haverhill	A. Pallato	0 50	-	3 00	0 50	20 00	0 11	-
Hingham	Interstate Hy. Const. Co.	0 50	-	2 25	0 75	20 00	0 095	-
Holbrook	Powers Bros.	0 75	-	2 50	0 90	18 00	0 105	-
Holden	Marois Sand & Gravel Co.	0 70	-	4 00	1 25	25 00	0 13	-
Holland-Sturbridge	Waterbury Rd. Const. Co.	0 55	0 55	2 00	1 20	20 00	0 13	-
Holliston	Middlesex Const. Co.	0 60	-	2 00	1 10	25 00	0 11	-

CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929

Conc. Surf. (cu. yd.)	Broken Stone (ton)	PIPE CULVERT (lineal feet)								Wooden Guard Rail (lin. ft.)	Stone Filling (cu. yd.)	Catch Basins (each)	Reinf. Conc. Ma- sonry (cu. yd.)	Gravel Borrow (cu. yd.)
		CLAY			REINF. CONCRETE									
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.						
-	-	-	\$0 70	-	\$1 00	-	-	-	\$0 65	-	-	\$20 00	\$0 60	
-	-	-	0 55	0 65	-	-	-	-	0 60	-	-	25 00	0 55	
-	\$2 25	0 45	0 50	\$1 15	0 90	-	-	-	-	-	-	18 00	0 65	
-	2 70	-	-	-	-	-	-	-	-	-	-	-	1 00	
\$9 60	2 50	0 50	0 65	1 05	-	-	-	-	0 80	-	65 00	28 00	0 90	
-	3 20	-	0 75	1 80	-	-	-	-	-	3 00	75 00	-	1 00	
-	-	0 52	0 60	0 75	1 30	\$1 75	\$2 50	3 50	0 70	-	60 00	27 00	0 75	
-	2 50	-	-	-	1 00	-	4 00	-	-	2 00	-	30 00	0 85	
-	-	-	-	-	1 85	-	-	-	0 75	-	75 00	30 00	0 75	
-	2 40	-	0 60	-	-	-	-	-	-	-	70 00	-	0 90	
-	-	0 50	-	-	1 25	-	2 50	-	-	2 50	-	22 00	0 75	
-	2 40	0 50	0 60	-	1 00	-	-	-	-	-	60 00	-	0 80	
-	3 25	-	-	-	-	-	-	-	0 60	2 25	-	30 00	-	
-	3 25	-	-	-	1 25	-	2 50	-	-	2 00	-	25 00	0 80	
-	3 50	0 60	0 70	-	1 25	1 75	-	-	-	-	65 00	-	0 80	
-	2 70	-	-	-	1 10	-	-	-	-	-	-	-	0 65	
-	3 00	0 60	0 60	1 00	1 25	-	-	3 50	-	1 90	75 00	25 00	0 75	
-	-	0 75	0 85	-	1 25	-	-	-	0 75	-	75 00	-	-	
-	-	0 60	0 60	-	1 25	2 25	2 50	3 50	0 50	-	60 00	15 00	0 65	
-	2 10	-	-	-	1 50	-	2 50	3 50	-	2 40	-	30 00	0 85	
-	-	-	-	-	1 25	-	-	-	1 00	-	75 00	-	1 00	
-	2 00	-	0 52	-	-	-	-	-	-	-	75 00	-	0 89	
-	2 50	0 60	0 75	-	-	-	2 00	3 00	1 00	-	75 00	20 00	0 75	
-	2 75	0 60	-	-	-	-	-	-	-	-	75 00	-	0 75	
-	2 75	0 50	0 60	1 00	-	-	-	-	0 75	-	75 00	-	0 75	
-	-	0 60	-	-	0 90	-	1 75	-	0 55	-	85 00	20 00	0 70	
-	3 00	-	0 60	0 95	1 70	2 05	-	3 50	-	2 25	75 00	30 00	0 80	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9 35	3 00	-	0 75	-	-	-	-	-	-	-	75 00	-	1 00	
-	2 35	0 75	0 85	-	2 25	-	-	-	0 65	-	75 00	-	1 35	
-	-	-	-	-	-	-	-	-	0 65	-	-	30 00	1 00	
-	2 75	-	0 70	-	1 25	-	2 25	3 50	0 60	1 50	70 00	25 00	0 70	
-	2 90	0 50	0 60	1 50	1 20	-	-	4 00	0 60	-	75 00	25 00	1 00	
-	2 30	0 50	0 60	1 00	1 20	-	-	-	0 60	-	60 00	-	1 00	
-	2 45	-	-	-	-	-	-	-	0 70	1 25	-	25 00	1 15	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	2 30	1 00	0 60	1 00	1 10	1 50	2 25	3 50	0 60	-	60 00	20 00	0 60	
-	-	-	-	-	1 10	-	-	-	0 60	-	70 00	-	-	
-	-	0 75	-	-	1 25	-	-	-	0 80	-	75 00	25 00	-	
-	2 30	0 75	0 75	-	1 00	3 00	4 00	-	0 60	-	60 00	-	0 50	
-	3 00	0 50	0 60	-	-	-	-	-	-	2 00	75 00	35 00	1 10	
-	-	0 65	-	-	1 25	-	2 00	-	0 60	-	-	-	1 00	
-	2 85	0 45	0 55	0 90	1 10	1 50	-	3 50	0 60	-	60 00	25 00	0 65	
-	2 50	-	-	-	-	-	-	-	1 00	2 00	70 00	30 00	0 50	
-	-	-	-	-	1 15	-	-	-	0 60	1 00	-	22 00	0 80	
-	3 05	0 70	0 75	1 00	1 25	2 00	2 70	3 90	0 50	-	70 00	25 00	0 75	
-	2 80	0 60	0 70	-	1 15	1 75	2 25	3 50	0 55	-	75 00	28 00	0 85	
-	2 60	0 50	-	-	0 95	1 40	2 25	-	0 70	2 00	60 00	30 00	0 77	
-	-	-	-	-	1 25	-	2 50	-	-	-	60 00	25 00	0 80	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	3 60	-	0 75	-	1 50	2 00	2 50	3 75	0 60	2 00	-	25 00	1 50	
-	2 85	-	-	-	-	-	-	-	0 60	1 50	-	-	0 75	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	2 70	0 55	0 60	-	1 15	-	2 75	-	0 60	-	65 00	25 00	0 79	
-	-	0 50	-	-	1 25	-	2 50	-	-	2 00	50 00	15 00	0 50	
-	-	-	-	-	-	-	-	-	0 75	-	-	-	0 85	
-	3 50	-	0 70	-	1 20	-	-	-	-	2 10	-	25 00	0 90	
-	3 40	-	0 70	-	1 40	-	2 25	4 00	-	2 50	80 00	30 00	0 90	
-	2 90	0 55	0 65	-	1 25	-	-	-	0 60	2 50	70 00	35 00	0 80	
-	2 85	0 50	0 60	-	-	-	-	-	-	-	75 00	-	1 35	
-	2 95	0 55	0 60	-	1 15	1 90	-	-	-	-	70 00	20 00	1 50	
-	3 20	-	0 60	1 00	1 00	2 00	1 75	2 50	-	2 45	80 00	30 00	0 90	
-	2 35	-	-	-	-	-	-	-	-	-	-	30 00	0 50	
-	2 50	0 60	0 70	-	1 10	-	2 25	-	0 55	2 00	70 00	30 00	0 80	
-	2 50	0 50	0 60	0 75	0 60	-	1 00	-	-	-	75 00	-	0 60	
-	2 25	-	1 00	2 00	-	-	-	-	1 00	-	-	-	1 00	
-	2 05	0 50	0 60	1 00	1 10	-	-	3 00	0 50	-	60 00	30 00	0 60	
-	-	-	-	-	1 25	-	-	-	-	-	75 00	-	1 00	
-	2 80	-	-	-	1 25	-	2 50	-	-	2 00	-	30 00	0 90	
-	-	0 55	-	-	0 65	-	-	-	0 75	-	80 00	-	1 50	
-	2 60	0 60	0 75	0 75	0 75	-	-	-	0 75	2 15	80 00	20 00	0 85	
-	2 25	0 55	0 65	-	1 10	-	-	-	0 55	-	53 00	-	0 45	
-	2 50	0 45	0 55	1 00	-	-	-	-	-	-	65 00	-	0 90	
-	2 90	0 60	0 75	-	2 50	-	-	-	-	2 50	75 00	-	0 45	
-	3 55	-	-	-	1 00	-	2 00	3 00	0 50	2 10	-	35 00	0 70	
-	2 50	-	0 60	-	-	-	-	-	1 00	-	60 00	-	0 85	

CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929 — Continued

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Holyoke-Westfield	The Lane Constr. Corp.	\$0 50	\$0 50	\$2 25	\$2 00	\$22 00	\$0 095	—
Hudson	John Iafolla	0 65	0 60	3 00	0 90	18 00	0 10	—
Kingston	A. D. Bridge's Sons, Inc.	0 65	—	4 00	1 00	25 00	0 12	—
Kingston	A. D. Bridge's Sons, Inc.	0 50	—	0 50	1 00	20 00	0 11	\$0 20
Lakeville	N. & B. Crushed Stone & Gravel Co.	0 58	0 68	2 00	1 00	19 75	0 11	—
Lancaster	A. M. Custance & Co., Inc.	0 65	0 65	3 00	1 15	20 00	0 095	—
Lanesborough	The Lane Const. Corp.	0 60	—	0 60	1 50	22 00	0 17	—
Lanesborough-New Ashford	The Lane Const. Corp.	0 80	0 90	2 25	2 00	22 00	0 18	—
Leominster	Fitchburg Conc. Const. Co.	0 60	—	—	1 50	20 00	0 11	—
Lexington	John A. Gaffey & Son	0 55	—	2 50	0 95	—	0 10	—
Ludlow	A. G. Bianchi Const. Co.	0 50	0 50	0 50	1 00	22 00	0 12	—
Lunenburg	John F. Rooney	0 55	—	1 00	1 00	18 00	—	0 08
Lynn	D. Cerulli & Son	0 45	0 90	2 00	0 90	15 00	0 08½	—
Lynnfield	M. McDonough	0 60	—	3 00	1 25	25 00	0 10	—
Lynnfield-Peabody								
Danvers	Warren Bros. Roads Co.	0 76	—	4 00	1 40	23 00	0 12	—
Malden	C. M. Callahan, Inc.	0 60	—	3 00	1 00	20 00	0 08	—
Marion-Wareham	Charles I. Hosmer	0 80	0 80	14 00	1 50	20 00	0 13	—
Marlborough	Middlesex Const. Co.	0 65	—	4 00	1 00	—	—	—
Mattapoisett	Watkins Bros.	0 60	1 00	4 00	1 00	14 00	0 12	—
Maynard-Stow	Thomas Mulcare, Inc.	—	—	5 00	—	—	0 30	—
Medfield	Edward O'Toole	0 75	0 80	3 00	1 50	12 00	0 10	—
Medway	Iron Trap Rock Co.	0 52	—	2 00	1 25	20 00	0 10	—
Mendon	John F. Rooney	0 55	—	2 50	1 00	20 00	—	0 08
Milford	Frank Lanza & Sons	0 60	—	2 00	1 00	20 00	0 10½	—
Milford	C. Bianchi & Co., Inc.	0 65	—	6 00	1 00	25 00	—	—
Milford	G. Bonazzoli & Sons	0 80	—	2 75	1 25	20 00	0 13	—
Milford-Hopedale								
Upton	R. H. Newell Co.	0 80	0 90	2 25	1 25	25 00	0 12	—
Millbury	C. E. Horne	1 50	—	1 50	—	20 00	—	—
Millis	Franklin Const. Co.	0 50	—	01	0 75	17 00	0 10	—
Millville	Henry Goulet	1 00	—	3 00	1 00	25 00	0 12	—
Monson-Palmer	Raymond A. Bergesson	1 00	1 25	5 00	1 50	25 00	0 12	—
Montague	Kelleher Corp.	0 50	0 50	0 50	1 00	22 00	0 10	—
Nantucket	John C. Ring	1 00	1 00	1 00	1 00	25 00	0 35	—
Needham	John Iafolla Const. Co.	0 76	—	0 76	1 00	20 00	0 085	—
Newbury	Merritt, Chapman & Scott	0 60	0 60	15 00	1 00	20 00	0 10	—
Newbury	Lincoln & Belding	0 70	—	4 00	1 50	20 00	—	0 15
Newton	Raimo & Panakio	0 45	—	1 00	1 00	18 00	0 09	—
Newton-Wellesley	F. T. Ley Co.	1 40	—	7 00	2 80	—	0 18	—
North Adams	The Lane Constr. Corp.	0 50	0 65	3 25	2 00	25 00	0 11	—
North Andover	P. J. Holland	0 60	0 70	2 50	1 50	20 00	—	—
Oxford	Raimo & Panakio	0 60	0 70	2 50	1 00	18 00	0 11	—
Palmer	A. G. Bianchi	1 00	0 50	2 00	1 00	—	0 12	—
Peabody	A. Mogavero	0 70	—	2 00	1 25	35 00	0 095	—
Pembroke	E. M. Miskell	0 70	0 80	3 00	1 00	20 00	0 11	—
Pepperell	J. E. Watkins Co.	0 50	0 60	2 50	0 75	20 00	0 07	—
Petersham	Catanese Const. Co.	0 65	0 70	3 00	1 00	25 00	—	0 11
Phillipston	Warner Bros. & Goodwin, Inc.	0 50	—	2 00	1 00	25 00	—	0 15
Plymouth	Coleman Bros., Inc.	0 70	1 00	4 00	1 70	22 00	0 13	—
Provincetown	M. F. Roach & Sons, Inc.	1 00	—	5 00	1 00	25 00	0 25	—
Provincetown	M. F. Roach & Sons, Inc.	0 75	0 80	5 00	1 00	20 00	0 20	—
Quincy	M. McDonough Co.	0 50	1 00	3 00	1 25	20 00	0 11	—
Randolph	Powers Bros.	0 75	—	2 00	1 00	18 00	—	0 12
Rehoboth	Z. L. Canedy	0 75	0 90	4 00	2 00	15 00	—	0 12
Rehoboth-Seekonk	Jos. McCormick	0 75	0 80	2 50	1 25	25 00	0 12	—
Royalston	Raymond J. Andrews	0 70	0 85	3 75	1 50	25 00	—	0 13
Salem	Higgins & Collins Co.	0 90	—	4 00	—	—	0 11	—
Salisbury	R. G. Watkins & Son	0 65	—	3 00	1 00	20 00	0 10	—
Saugus	M. McDonough Co.	1 00	—	—	1 00	25 00	0 095	—
Savoy	Kelleher Corp.	0 80	0 95	3 00	1 50	—	—	0 13
Sharon	C. E. Horne	0 70	0 80	1 75	1 00	20 00	—	—
Sherborn	Frank & Frank Const. Co.	0 65	—	3 00	1 00	20 00	0 10	—
Spencer	Hagan-Thibodeau Const. Co.	1 00	1 00	3 00	1 00	18 00	—	0 15
Sterling	Fitchburg Conc. Const. Co.	0 75	—	—	—	—	—	0 11
Sterling	Frank Serretto & Sons, Inc.	0 55	0 50	3 00	0 75	16 00	—	0 16
Stoneham								
Wakefield	T. J. McCue	0 63	—	4 00	1 00	20 00	0 09	—
Stoneham								
Winchester	Raimo & Panakio	0 70	—	2 25	1 00	18 00	0 09	—
Sunderland	Kelleher Corp.	0 50	—	3 00	1 25	25 00	0 125	—
Sutton	G. Bonazzoli & Son	1 00	—	5 00	1 50	25 00	0 12	—
Taunton	John Iafolla Const. Co.	0 45	0 50	3 00	1 00	18 00	0 10	—
Townsend	Lawton Const. Co.	0 60	0 55	0 60	1 00	20 00	0 075	—
Watertown	T. J. McCue	0 50	—	5 00	—	—	—	—

CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929 — *Concluded*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Wayland . .	D. Cerulli & Son . .	\$0 49	—	\$2 00	\$0 75	\$15 00	\$0 095	—
Westborough . .	Frank & Frank Const. Co. . .	0 55	\$0 50	3 00	1 25	18 00	0 10	—
Westborough . .	Hudson Const. Co. . .	0 65	0 70	2 50	1 00	20 00	0 11	—
West Boylston . .	Hagan-Thibodeau Const. Co. . .	1 20	1 20	1 20	1 30	20 00	—	\$0 13
West Bridgewater . .	Washburn & Sheridan . .	0 50	—	3 00	1 50	20 00	—	0 13
Westford . .	Antonio Palloto . .	0 60	0 60	4 00	0 75	20 00	0 08	—
Westford . .	Greenough Const. Co. . .	0 80	0 60	4 00	1 50	20 00	0 10	—
Weston . .	Greenough Const. Co. . .	0 80	0 70	4 00	1 00	20 00	0 10	—
West Springfield . .	The Lane Constr. Corp. . .	0 55	—	3 00	1 00	25 00	0 095	—
West Tisbury . .	Washburn & Sheridan . .	1 00	—	3 00	1 50	20 00	0 25	—
Westwood . .	Hudson Const. Co. . .	0 85	—	3 00	—	—	0 12	—
Wilbraham . .	Dracut Const. Co. . .	0 85	0 60	3 50	1 25	25 00	0 11	—
Wrentham . .	T. J. Quinn & Sons . .	0 75	—	2 50	1 25	20 00	0 11½	—
Yarmouth . .	Washburn & Sheridan . .	0 65	—	4 00	—	—	0 20	—

REGISTRY OF MOTOR VEHICLES

Nearly all phases of the work of the Registry of Motor Vehicles have shown a normal yearly increase. The total receipts turned over directly by the Registry for fees have been materially decreased by the reduction of 70 per cent in registration fees resulting from the adoption of the gasoline tax in this State as provided in chapter 316, Acts of 1928. This loss, however, is fully offset by the revenue received from the gasoline tax which is credited to the Highway Fund but is collected through the Department of Corporations and Taxation.

The law relating to compulsory motor vehicle liability insurance occasions much extra work in connection with registrations. Chapter 379, Acts of 1928, providing for an excise tax from Jan. 1, 1929, has also added considerable detail work, as this law requires the Registrar to furnish a copy of each registration record to the Commissioner of Corporations and Taxation. This official forwards the information on cards to the various boards of assessors for use as the basis of the excise tax bill sent to the owner of each motor registered.

The Registry of Motor Vehicles has endeavored by every means available to secure strict enforcement of the motor vehicle laws to produce greater safety on the highways and to reduce accidents to both persons and property. This office has cooperated with the various safety organizations throughout the State in impressing upon the motoring public and pedestrians the necessity for caution when riding or walking on the highways.

A few of the outstanding figures for the year, together with a comparison of the previous year, follow: —

	1928	1929
Certificates of registration issued (passenger cars, commercial vehicles and motor cycles)	890,251	1,023,084
Licenses to operate issued	870,160	944,338
Examinations of applicants for licenses	154,594	183,758
Licenses and registrations revoked and suspended	40,814	53,133
Licenses revoked for driving under influence of liquor	5,071	5,381
Total number of applications handled	1,876,174	2,106,564
Gross receipts from fees	\$13,420,453.05	\$6,498,854.72

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures indicate an increase of nearly 15 per cent in both passenger and commercial vehicle registrations. The motor cycle registrations continue to decrease as they have for several years past.

	1905	1910	1915	1920	1925	1928	1929
Passenger cars	4,889	31,360	90,580	251,570	663,858	784,453	903,648
Commercial vehicles	—	—	12,053	52,968	100,480	99,142	113,268
Motor Cycles	553	3,358	9,520	15,142	10,333	6,656	6,168
Totals	5,442	34,718	112,153	319,680	774,671	890,251	1,023,084

EXAMINATIONS FOR LICENSES

Examinations of applicants for licenses to operate motor vehicles were held at 54 points in the State, with the results as tabulated below: —

	1928	1929
Operators passed	106,942	122,887
Operators unfit	22,664	33,104
Restriction, removal, passed	21,642	22,808
Restriction, removal, unfit	2,621	3,717
"Competency" passed	682	1,144
"Competency" unfit	43	98
Total examinations	154,594	183,758

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles assist in the distribution of number plates, the issuing of licenses and furnishing general information relative to the motor vehicle laws. In 1929 the Registrar began to give hearings at stated intervals at the branch offices in Pittsfield, Springfield, Worcester, Lawrence, Lowell, Fall River and New Bedford, so that persons whose licenses or rights have been suspended or who, for other reasons, wish an appointment with the Registrar, may be heard by him or by his deputy or assistant. Each branch office supervises the work of the examiners and investigators and of law enforcement in its district. The following table gives approximate figures regarding applications received at the branch offices and at the central office at Commonwealth Pier 5, Boston:—

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Total
Boston:					
Counter . . .	237,000	—	112,000	95,000	444,000
Mail . . .	161,000	—	461,000	37,000	659,000
Examinations . . .	—	51,000	—	20,000	71,000
Pittsfield . . .	24,500	4,100	14,000	10,000	52,600
Springfield . . .	80,000	15,000	43,000	35,000	173,000
Worcester . . .	70,000	11,500	38,000	31,000	150,500
Lawrence . . .	33,000	5,800	23,000	14,000	75,800
Lowell . . .	25,000	4,700	17,000	10,000	56,700
Fall River . . .	23,000	5,600	17,500	9,800	55,900
New Bedford . . .	24,000	3,800	20,000	9,800	57,600
Lynn . . .	58,500	12,000	35,000	26,000	131,500
Quincy . . .	28,000	8,200	19,000	15,000	70,200
Brockton . . .	38,000	3,000	24,000	19,000	84,000
Hyannis . . .	9,300	2,400	4,300	5,200	21,200
Nantucket ¹ . . .	1,200	—	—	—	1,200
Oak Bluffs ¹ . . .	2,300	—	—	—	2,300
Totals . . .	814,800 ³	127,100	827,800	336,800 ²	2,106,500

A new branch office was opened in Greenfield on August 30, 1929, but the work of this office for the current year is included in that of the Springfield office as the new branch is a sub-office coming under the jurisdiction of the Springfield office.

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures give an approximate idea of the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

NOTICES OF CANCELLATION OF INSURANCE POLICIES RECEIVED AND INTENTS TO REVOKE MAILED

	1928	1929
(a) For non-payment of premiums	38,359	49,846
(b) For other reasons	16,109	15,755
Total	54,468	65,601
Revocations	16,782	25,596
Sets of number plates returned	53,460	97,036

It is interesting to note that the receipt of 65,601 notices of cancellation from insurance companies required the mailing of the same number of notices of intent

¹ Licenses and miscellaneous applications included in counter figures.

² This figure includes approximately 200,000 number plate reissues.

³ Does not include reissues (see Miscellaneous).

to revoke; that approximately 17,000 of these cases were adjusted by the filing of certificates of insurance by a new company; approximately 20,000 were adjusted by the filing of reinstatement certificates from the same company; approximately 2,800 by the surrender of number plates prior to the effective date of cancellation; and approximately 26,000 by the revocation of the plates and certificates. In connection with the surrender of the number plates it was necessary to send notices of the return of these plates to the various insurance companies covering the registrations involved.

AIRCRAFT

By chapter 388, Acts of 1928, the powers and duties of the Department and the Registrar in regard to the legislation of aircraft and the licensing of pilots have been extended. This change in the law and the progress made in the industry itself have resulted in a rapid increase in the volume of this work.

Non-resident pilots and aircraft registered outside the Commonwealth now come under the jurisdiction of the Registrar shortly after entering the State. The filing of statements is required describing the aircraft and giving facts concerning licenses from other authorities. If these credentials are satisfactory and the condition of the aircraft meets the requirements of the State laws, permits are issued allowing the pilots to continue the operation of such aircraft in the Commonwealth. The work of investigating the credentials before the issuance of such permits is as great as that involved in the registration of Massachusetts aircraft under the law.

All landing fields, whether public or private, in Massachusetts are now under the supervision of the Department of Public Works, in accordance with the provisions of chapter 388, Acts of 1928, which authorizes said Department to prohibit or allow the use of such fields. As a basis for action in such matters it has been necessary to have surveys and plans of such fields made by the engineers of the Department under the supervision of the Registrar and the Supervisor of Aviation.

The following figures give an indication of the work involved: —

	1928	1929
Pilots' licenses issued	51	42
Airplanes registered	18	36
Pilots' license fees received	\$435	\$355
Airplane registration fees received	\$270	\$540
Pilots examined for licenses	—	36
Aircraft examined for repairs	—	60
Pilots' permits issued	—	173
Aircraft permits issued	—	135
Suspensions of licenses, registrations and rights to operate	11	41
Court convictions for violations of aircraft laws	—	6
Surveys of fields for airports	—	47
Flying fields approved	—	3
Flying fields disapproved	—	14
Investigations made by aircraft inspectors	—	313
Airplane accidents:		
Crack-ups	—	68
Non-fatal	—	19
Fatals	—	8
Persons injured	—	29
Persons killed	—	13
Caused by motor failure	—	28
Structural failure	—	10
Improper operation and other reasons	—	57

INSPECTION OF MOTOR VEHICLE EQUIPMENT

On account of the small number of inspectors available for the work, the enforcement of the provisions of the motor vehicle law relating to equipment has been less strict than in previous years. Approximately ten men were engaged exclusively in this work instead of sixteen to thirty in previous years.

Headlighting

Continuing the policy of approving complete headlamps only, the Registrar issued approval of two new headlamps as follows: (1) a single filament, fixed beam, headlamp and (2) a double filament, tilting beam, headlamp; and extensions of approval certificates already in force, as follows: (1) a single filament, fixed beam, headlamp and (2) five double filament, tilting beam, headlamps. There is a tendency toward the tilting beam type and the proper design of the headlamp so that focusing mechanisms may be eliminated. In addition, a large number of headlamps or other headlighting devices including shields, various patented fixtures, lenses, reflectors, and complete units submitted were rejected for justifiable reasons.

Rear Lamps

Nine rear lamps were approved by the Registrar during the year. Of these none were of the single lamp type, but six were combined with stop signals only, and three with stop signals and backing lights.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

The deaths caused by motor vehicles in 1929 numbered 777, an increase of 62 or 8.6 per cent as compared with the previous year. The record of persons killed and injured in motor vehicle accidents in 1928 and 1929 is as follows:

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1928	1929	1928	1929
Pedestrians by autos	432	432	17,418	18,090
Pedestrians by motor cycles	3	4	25	35
Pedestrians near street cars	12	11	45	31
Occupants of autos	202	249	23,077	25,801
Occupants of autos at railroad crossings	21	24	76	47
Occupants of motor cycles	22	27	423	565
Bicycle riders	10	14	691	955
Occupants horse-drawn vehicles	5	5	303	302
Coasters (on sleds)	8	9	143	285
Coasters (on wheels)	0	2	0	0
Totals	715	777	42,201	46,111
	Children Killed		Children Injured	
	1928	1929	1928	1929
Boys	144	137	6,712	7,294
Girls	62	60	2,950	3,292
Totals	206	197	9,662	10,586

Number of Collisions

	1928	1929
Autos v. pedestrians	17,171	17,585
Autos v. autos	19,289	20,819
Autos v. horse-drawn vehicles	336	392
Autos v. bicycles	703	959
Autos v. trolley cars	355	447
Autos v. poles, trees, etc.	1,734	2,869
Autos v. trains	68	68
Autos v. motor cycles	385	517
Autos v. sleds	128	255
Motor cycles v. pedestrians	23	40
Totals	40,192	43,958

	1928	1929
In the daytime	27,534	29,645
After dark	12,658	14,313
Totals	40,192	43,958

ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these accident reports received in 1929 was 35,014 as compared with 33,228 received in 1928. Under the requirements of section 29, chapter 90, General Laws, 17,186 similar reports of accidents were received from Police Departments throughout the state in 1929 as against 15,268 received in 1928.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered ¹	Motor Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Suspensions and Revocations	For Operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,631	15,143	319,774	481	21,182	361,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,019,460	6,168	1,025,628	777	46,111	944,338	53,133	5,381

¹ Passenger cars and commercial vehicles.

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations and examinations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, headlight violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. The work of the inspectors is indicated by the following tabulation on the classification of reports: —

Classification of Reports

	1928	1929
Accidents, fatal	714	747
Accidents, non-fatal	2,112	2,455
Accidents, brief reports	1,305	1,445
General reputation	3,288	3,302
Miscellaneous	6,193	6,194
Totals	13,612	14,143
Complaints filed	14,756	10,178
Garages inspected	8,207	2,897
Headlight and other violations reported	71,174	48,693
Prosecutions conducted	888	825
Amount of fines	\$42,244	\$38,765

REVOCATIONS AND SUSPENSIONS

	1928	1929
Licenses suspended	9,562	12,120
Licenses revoked	3,995	4,014
Rights suspended	4,389	4,174
Certificates suspended	17	9
Certificates revoked	20,679	30,500
Certificates and licenses suspended	72	45
Certificates and licenses revoked	1,828	2,046
Certificates revoked and rights suspended	157	157
Rights in Massachusetts suspended	115	68
Totals	40,814	53,133
Resulting from investigations	12,714	16,040
Resulting from court convictions	10,129	9,985
Resulting from Police complaints	1,075	1,755
Resulting from Judges' complaints	21	46
Resulting from State Police complaints	81	199
Resulting from Insurance cancellations	16,794	25,108
Totals	40,814	53,133

Character of Offences

	1928	1929
Reckless and endangering	2,138	2,209
Liquor convictions	4,240	4,575
Going away after accidents	479	474
Without authority	557	669
Racing	5	6
Improper person, liquor	831	806
Improper person	6,184	5,570
Improper operation	5,764	8,297
Two overspeeds	260	381
Three overspeeds	21	34
Insurance cancellations	16,794	25,108
Insurance convictions	407	382
Improper equipment, miscellaneous	147	1,685
Improper equipment, lights	1,365	1,793
Improper equipment, brakes	682	219
Deaths (fatal accidents)	710	765
Other offences	230	160
Totals	40,814	53,133
Hearings	6,929	6,751
Court recommendations adopted:—		
Liquor	0	0
Reckless and endangering	52	58
Going away after accidents	3	17
Without authority	0	1
Totals	55	76

Persons whose licenses were suspended or revoked and who had to pass examinations in order to have them returned .	3,680	4,077
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ANALYSIS OF COURT ABSTRACTS RECEIVED

	1928	1929
Number of courts forwarding abstracts	95	95
Total abstracts received	53,345	57,025
Number of abstracts recording convictions	42,052	46,448

Offences

(Analysis of guilty cases, not including appeals)

Overspeeding	11,375	14,940
Reckless	57	43
Operating under influence of liquor	4,232	4,527
Using auto without authority	843	1,046
Endangering lives	2,531	2,781
Not stopping after causing injury	774	797
Without license	4,018	3,852
Without registration certificate	1,490	1,302
Unregistered vehicle	479	370
Improper display or no register number	391	268
Refusing to stop on signal	433	503
Unlighted lamps	1,495	1,649
No signal	75	34
Dazzling lights	—	1
Operating within 8 feet of street car	287	244
Violation of Metropolitan Park Rules	239	1,393
Operating after suspension or revocation of license	586	534
Larceny	244	191
Manslaughter	—	1
Miscellaneous	2,314	3,100
Lenses not approved	128	68
No reflector	1	2
Racing	19	6
Operating after revocation of registration certificate	11	25
No rear light	313	372
Not displaying lights	181	156
Violation spot-light law	1	2
Improper lights	260	559
Brakes not as required by law	259	435
Violation of Insurance Law	479	449
Not slowing down approaching pedestrian	211	36
Not slowing down at intersecting way	6,507	5,472
Violation law of road	1,640	1,159
Perjury	—	—
Making false statements on license application, falsely impersonating or conspiring to obtain a license	128	90
Loaning license to another	21	5
Allowing intoxicated person to operate	3	13
No windshield cleaner	—	1
Attempted larceny	27	22
Totals	42,052	46,448

USED CAR SECTION

(Motor Vehicle Identification)

The Used Car Section indexes cars reported stolen, lists the sales of used cars, investigates the history of cars sold bearing obliterated, defaced or changed engine and makers' numbers, and advises the owners of cars registered under the incorrect engine and makers' numbers where to find the correct numbers on the cars.

The work of this section is summarized in the following tables: —

<i>Dealers</i>		
	1928	1929
Total number of first class dealers reporting	1,338	1,304
Total number of second and third class dealers reporting	458	450
Total number making reports to this office	1,796	1,754
<i>Reports</i>		
Approximate number of individual reports received daily	300	450
Approximate number of dealers' reports received daily	1,000	1,500
<i>Motor Vehicles Stolen</i>		
Number stolen in Boston	4,202	4,112
Number stolen in Massachusetts (including Boston)	7,662	7,850
Number of stolen cars reported from various sources throughout the country, including Massachusetts	17,907	21,194
Number recovered through information furnished by this office	302	345
<i>Engine and Serial Numbers</i>		
Engine numbers assigned to cars	77	65
Certificates issued authorizing the replacement of engine numbers	1,402	1,474
Certificates issued authorizing the replacement of serial numbers	2,610	2,223
Certificates issued authorizing the replacement of both engine and serial numbers	89	75
Total number of authorization certificates issued	4,101	3,772

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Representatives of the Department attended meetings of the Eastern Conference of Motor Vehicle Administrators in January at Hartford, Connecticut; in April at New York City; and in September at Toronto, Canada. It has now been decided to hold but two regular meetings of the Conference in each year instead of four meetings.

ANALYSIS OF RECEIPTS

The fees received for the year 1929, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table: —

Certificates of registration:			
Passenger cars (including taxicabs)	903,648	\$2,857,187	25
Commercial cars	113,268	1,198,678	75
Busses	1,988	69,912	50
Trailers	556	24,309	75
Motor cycles	6,168	8,768	50
Manufacturers or dealers (including repairers)	3,094	9,283	00
Manufacturers or dealers, additional cars (including repairers)	19,546	58,430	50
Licenses to operate:			
Original licenses	127,432 at \$2 00	—	254,864 00
Renewal licenses	816,906 at \$2 00	—	1,633,812 00
Examinations	137,307 at \$2 00	\$274,614	
Re-examinations	46,770 at \$1 00	46,770	
Total examinations	184,077		321,384 00

Copies of certificates and licenses furnished	47,242 at \$1 00	\$47,242 00
Duplicate number plates furnished	10,060 at \$1 00	10,060 00
Lens approval applications	11 at \$50 00	550 00
Miscellaneous receipts, auto lists, process fees, etc.		4,372 47
Total amount of fees		\$6,498,854 72
Motor vehicle fees rebated (deducted)		89,994 38
Net fees		\$6,408,860 34
Court fines received by the Treasurer and Receiver-General		708,864 40
Total receipts credited Highway Fund account, 1929		\$7,117,724 74

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1929 was \$1,342,815.09, which was 20.9 per cent of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,774,909.65 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR 1929

Personal services:			
Regular payroll	\$787,070 15		
Overtime	21,488 21		
		\$808,558 36	
Supplies:			
Books, maps, etc.	\$447 07		
Typewriter supplies	3,631 15		
Adding machine repairs and supplies	49 39		
Other supplies	2,761 90		
Stationery	23,710 88		
Typewriter repairs	106 15		
Other repairs	691 21		
		31,397 75	
Equipment:			
Accounting and sorting machines	\$1,490 95		
Adding machines	415 76		
Miscellaneous equipment	833 71		
Other machines	1,311 38		
Typewriter machines	4,607 32		
		8,659 12	
Furniture:			
Chairs	\$383 47		
Desks	1,020 18		
Files	3,360 15		
Miscellaneous	804 15		
		5,567 95	
Travel:			
Employees	\$35,299 00		
Automobiles (owned by employees)	117,205 70		
Automobiles (owned by state)	869 78		
Other travelling expenses	3,755 45		
		157,129 93	
Other services and expenses:			
Expressage	\$2,040 85		
Postage	60,671 02		
Printing	9,624 34		
Other reports	1,969 40		
Lithographing	3,279 34		
Telephone	5,993 40		

Premium on bonds of employees	\$372 62	
Rent	24,000 00	
Water and ice	1,372 85	
Cleaning and janitor services	1,260 00	
Towels	856 70	
Soap	58 84	
	<hr/>	\$111,499 36
Special services (labor)	\$308 80	
	<hr/>	308 80
Other expenses as listed below:		
Sundries	\$295 87	
Number plates	166,435 56	
Auto lists	2,500 00	
News clipping expenses	355 00	
Uniforms for inspectors	8,123 84	
Aviation expenses	4,442 51	
Printing	115 55	
Headlight expenses	817 00	
Temporary branch during rush	357 48	
	<hr/>	183,442 81
<i>Branch Office Expenses</i>		
Equipment:		
Lettering and signs	\$249 90	
Office equipment	1,540 86	
Erection of counter	2,544 73	
	<hr/>	4,335 49
Travel:		
Travelling expenses	\$91 04	
Express service to bank	360 00	
	<hr/>	451 04
Other services and expenses:		
Cleaning and janitor services	\$2,439 25	
Expressage	2,330 56	
Fuel	341 20	
Lighting	1,091 37	
Miscellaneous	473 87	
Rent	16,216 72	
Telephone	5,418 37	
Towels	278 35	
Water and ice	350 12	
Special services (labor)	908 32	
	<hr/>	29,848 13
<i>Publicity for Safety Work</i>		
Engraved cups for prizes	\$32 00	
Labels	179 89	
Personal services	114 25	
Postage	802 12	
Posters	299 36	
Sundries	160 58	
Travel	28 15	
	<hr/>	1,616 35
		<hr/>
		\$1,342,815 09
Personal services		\$808,558 36
Expenses		532,640 38
Publicity for safety work		1,616 35
		<hr/>
Total expenses		\$1,342,815 09

RELATING TO WATERWAYS AND PUBLIC LANDS—BOSTON HARBOR.**THE COMMONWEALTH FLATS AT SOUTH BOSTON***Commonwealth Pier No. 5*

In addition to the usual work of repairs and maintenance during the year the offices and rooms for a part of the engineering force of the Department have been completed and are now in use, and a room on the west side of the second floor has been built and equipped for a restaurant.

Work under contract of Oct. 23, 1928, with the George W. Nicoll Company, Inc., for building engineering offices, was completed Feb. 21, 1929, at a contract cost of \$68,163.58. By this contract offices and rooms were provided for the use of a part of the engineering force of the Department, two offices and a baggage room for the steamship companies, and bridges on the second floor of the pier were rebuilt to connect the west shed with the passenger shed.

The room used as a restaurant on the second floor mezzanine on the east side of the pier was found quite inadequate to serve the increased number of employees of the Department now transferred to the Pier. To provide better accommodation a contract was made with Carl S. Helrich on Apr. 23, 1929, for building a room for a restaurant on the west side of the second floor. This work included the construction of the room for the restaurant and a kitchen with light, heat and cooking facilities, the renovation of the room formerly used as a restaurant, the removal of the kitchen equipment and the preparation of the space for offices for use by the Registry of Motor Vehicles. On Nov. 15, 1929, this work was completed at a contract cost of \$13,577.41. The restaurant is now being operated by the Waldorf System, Inc.

Under contract of Jan. 25, 1929, a motor generator set for use in connection with a new room for blue printing was furnished and installed at a cost of \$1,832.10. This work was completed Mar. 13, 1929.

As the service pipe supplying water to the Pier was not large enough to meet the increased needs a contract was made on Mar. 5, 1929, with M. DeSisto Company for furnishing and laying about 192 linear feet of 6-inch cast-iron pipe from the water main in Northern Avenue to the service pipe on the pier. This work was completed Apr. 13, 1929, at a contract cost of \$2,596.40. The necessary connection with the water main in Northern Avenue was made by the city of Boston.

Additional heating equipment and sprinklers in the passenger quarters and locker rooms were provided under contract of Apr. 2, 1929, with Pierce and Cox at a contract cost of \$1,878. The work was completed May 7, 1929.

Certain necessary cleaning and painting of offices and corridors was completed June 22, 1929, under a contract of Apr. 16, 1929, with Thomas J. Walsh, at a contract cost of \$5,500.

Under a contract of May 7, 1929, with Maurice M. Devine broken lights of glass were replaced on the outer sides and end of the pier shed. This work was completed June 11, 1929, at a contract cost of \$1,044.20, for a part of which the Commonwealth was reimbursed by the steamship companies.

A contract was made on Oct. 22, 1929, with Maurice M. Devine for building eight movable wooden bridges, over the railroad tracks in the track pits, for connecting the east and west sheds with the center shed. This work is now in progress.

Work has not yet begun under contract of Nov. 27, 1929, with William H. Ellis and Son Company, for making repairs to the timber platforms at the pier.

On Nov. 27, 1929, a contract was made with Reynolds Bros., Inc., for furnishing and laying a two-inch wearing surface of bitulithic pavement on portions of the present floor of the pier. The larger part of the work to be done is the repaving of a portion of the driveway on the second floor of the west shed. No work has been done under this contract.

Provision is made for setting additional valves and indicator posts on the existing fresh water and fire service mains of the pier, by contract made Nov. 27, with M. DeSisto Company for the lump sum of \$1,050, but no work has as yet been done.

Miscellaneous work has been carried on during the year, including repairs to

iron ladders, timber platforms, fender logs, vacuum pumps, roofs, Kinnear and Ogden doors, to the heating system and to the masonry work of the boilers at the heating plant.

Ramp and D Street

On Nov. 27, 1929, a contract was made with A. DeStefano and Sons, Inc., for relaying the present granite blocks on a concrete base, resetting the curbing and relaying the brick sidewalks over the solid filled portion of the ramp connecting the Viaduct with D Street, and over that portion of D Street between the ramp and Northern Avenue. Work under this contract has not yet begun.

Development of Land South of Summer Street

During the year the seven sections in Storehouse No. 1 on E Street have been occupied by the Wiggin Terminals, Inc. Since July, this Company has used also sections J and K of Storehouse No. 2 on D Street. Section H of this warehouse was leased on May 7, 1929, to the Economy Grocery Stores Corporation for a term of five years from June 1, 1929. The remaining sections continue to be used by the Department.

On Feb. 19, 1929, a contract was made with Hill and Delaney to make repairs to portions of the wooden platforms on the easterly side of Storehouse No. 1 on E Street, and on the westerly side of Storehouse No. 2 on D Street. This work was completed Mar. 20, 1929, at a contract cost of \$3,826.61.

On Sept. 3, 1929, a contract was made with the George W. Nicoll Company, Inc., for the removal and construction of about 60 linear feet of platform on the D Street side, and the reconstruction of about 140 linear feet of platform on the track side of Section H, and repairs to other platforms and floors of Sections J and K of the Storehouse on D Street. This work was completed Nov. 26, 1929, at a contract cost of \$2,488.89.

A contract with Maurice M. Devine was made on Nov. 27, 1929, for placing a cement plaster surfacing one-half inch thick on the tile wall of sections H, J, and K of Storehouse No. 2 on D Street. Work has not yet begun under this contract.

Other miscellaneous repairs have been made this year to both Storehouses. The work has consisted chiefly of waterproofing parts of the roof, removing certain partitions, and making repairs to the fire sprinkler system.

Industrial Tracks of the Commonwealth

The repaving by the City of Boston of C Street on a concrete base from Summer Street to East First Street and the paving of D Street 50 feet wide with granite blocks on a concrete base from Claflin Street to East First Street, made certain changes in the tracks necessary. The railroad track crossing C Street and the tracks in Cypher Street at the intersection of C Street, were taken up and replaced by 100-pound rails at the grade established for the repaving of C Street. The rails in the Cypher Street tracks at the intersection with D Street were also removed and replaced by 141-pound girder rail, at the grade established by the paving of D Street.

General maintenance work upon the industrial tracks has been carried on during the year, chiefly in the replacing of old ties by new creosoted ties.

Land on Northern Avenue

On May 7, 1929, a parcel of land on the easterly corner of the intersection of the private way in extension of B Street with Northern Avenue was leased to the City Lease and Building Corporation at a rental of \$8,700 a year, for a term of twenty years, with an option of renewal for a further period of twenty years at a rental of five per cent of the fair value of said land as of April, 1949. The area leased contains 58,179 square feet. This lease was later assigned to the Massachusetts Chain Store Terminals, Inc.

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field

The lease to the War Department under date of June 30, 1922, was renewed to June 30, 1930, in accordance with the terms of a supplementary agreement

made Dec. 27, 1926, extending the renewal option to June 30, 1937, by yearly renewals.

The area containing approximately 1,479,000 square feet, adjacent to and easterly of the landing field, remains under lease of June 16, 1924, to the U. S. Navy Department. This lease gives to the Lessor the option of extending the period of occupancy by annual renewals to June 30, 1932.

The City of Boston under the lease of Aug. 10, 1928, authorized by chapter 64 of the Resolves of that year, continues to occupy an area of approximately 5,717,000 square feet for use as an Airport.

By chapter 24 of the Resolves of 1929, the Department was authorized to move and relocate two hangars and other buildings of the Massachusetts National Guard, at the Airport. On Sept. 4, 1929, a contract for this work was made with John Cavanagh and Sons Building Moving Company. The work was completed Nov. 20, 1929, at a contract cost of \$18,411.44. On Nov. 26, 1929, a contract was made with Hill and Delaney for miscellaneous work, consisting largely of reconstruction of rooms, and of making the necessary plumbing, sewer and heating connections necessitated by the moving of the buildings. This work is now in progress.

Dredging and Filling at East Boston

No contract for dredging and filling has been in force at East Boston since the completion on Dec. 24, 1923, of that with the Atlantic, Gulf and Pacific Company. Between that date and Nov. 30, 1929, approximately 1,700,000 cubic yards of material dredged from various locations in the harbor by dredging companies employed chiefly upon private work have been deposited in the receiving basin. During the year ending Nov. 30, 1929, about 140,000 cubic yards were deposited upon the flats northerly of Governor's Island.

The Commonwealth has reclaimed at East Boston about 150 acres of land.

Commonwealth Pier No. 1, East Boston

During the year the east and west docks of the pier have been used by the Eastern Steamship Lines, Inc., for their steamers not in service.

No major repairs to the pier have been needed this year.

AREAS IN TIDE WATER CEDED TO THE FEDERAL GOVERNMENT

By two deeds of August 20, 1929, the Department conveyed to the Superintendent of Lighthouses two tracts of tide water land of the Commonwealth in Weymouth Fore River to be used for the erection and maintenance of lights as aids to navigation. One of these areas is located at Harrys Rock Light No. 2 in the town of Hull, and one at Fore River Channel Light No. 4 in the town of Weymouth.

HARBOR LINES

New harbor lines have been established during the year on the northerly side of Mystic River in Everett and across Fort Point Channel in Boston.

Chapter 228 of the Acts of 1929 fixes a new harbor line in Mystic River to coincide with the present U.S. pierhead and bulkhead line and to extend easterly from a point near Malden Bridge to the westerly side of the mouth of Island End River. This chapter abolishes the harbor lines established in this part of the river in 1856.

Chapter 278 of the Acts of 1929 fixes a new harbor line across Fort Point Channel just below Dorchester Avenue Bridge, and abolishes all previous harbor lines in the channel above the new line and in South Bay.

SAVIN HILL BAY AND DORCHESTER BAY

By chapter 317 of the Acts of 1929, the Department of Public Works was authorized and directed to do certain dredging in Savin Hill Bay and Dorchester Bay.

On July 16, 1929, a contract was made with the Trimount Dredging Company to redredge the Commercial Point Channel 100 feet wide and approximately 2,400 feet long to a depth of 12 feet at mean low water; to dredge a channel from the Dorchester Yacht Club to the Commercial Point channel 50

feet wide and approximately 800 feet long to a depth of 6 feet at mean low water, and to dredge approximately 1,000,000 square feet of flats in Savin Hill Bay to a depth of 3 feet at mean low water.

The contract prices for this dredging are: for dredging channels and disposing of the dredged material on the shore, 40 cents per cubic yard measured *in situ*; for dredging flats and disposing of the dredged material on the shore, 49 cents per cubic yard measured *in situ*; for removing and disposing of boulders, \$18 per cubic yard. This dredging is now in progress.

From the appropriation of \$147,500 made by the Legislature the amount of \$28,125 is to be paid from the Port of Boston receipts, the remainder is to be considered a part of the cost of the Old Colony Boulevard and is to be divided, so that \$59,687.50 is paid from the Highway Fund and an equal amount assessed upon the cities and towns of the Metropolitan District.

TOWN RIVER, QUINCY

Hearing was held Jan. 30, 1929, on the petition of the Mayor of Quincy for dredging in Town River from a point nearly opposite property of the Baker Yacht Basin, Inc., to the northerly property line of the Quincy Lumber Company.

On Sept 17, 1929, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of not less than 8 feet at mean low water, a channel 60 feet wide on the bottom and approximately 5,000 feet long. The contract prices are: for dredging the channel and disposing of the dredged material, 49 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. Toward the cost of this work a contribution of \$14,750 has been made by the city of Quincy. This dredging is now in progress.

Amount expended during the year, \$15,777.74. Total expenditure to Dec. 1, 1929, \$15,777.74.

WOLLASTON CHANNEL, QUINCY

Hearing was held Jan. 30, 1929, upon the petition of Edward G. Morris for dredging the channel to the Wollaston and Squantum Yacht Clubs.

On May 28, 1929, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of not less than 6 feet at mean low water a basin, approximately 100 feet wide and 500 feet long, and a connecting channel approximately 1,800 feet long and 70 feet wide, in the vicinity of the Wollaston and Squantum Yacht Clubs at Wollaston Beach, Quincy. The contract prices for this work were: for dredging channel and basin and disposing of the dredged material, 55 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This dredging was completed June 25, 1929, at a contract cost of \$16,564.35. Toward this cost the Wollaston and Squantum Yacht Clubs contributed \$150 and the city of Quincy, \$4,000.

Amount expended during the year, \$16,600. Total expenditure to Dec. 1, 1929, \$16,600.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$100,000 was made during 1929, with the following condition:

"provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered."

An appropriation of \$40,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river

banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allen's Harbor, Harwich; Annisquam River, Gloucester; Bass River, Dennis and Yarmouth; Connecticut River, Holyoke; Connecticut River, West Springfield; Duxbury Harbor, Duxbury; Falmouth Inner Harbor, West Falmouth Harbor, Wild Harbor, Waquoit Bay, Falmouth; Gloucester Inner Harbor, Green Harbor, Marshfield; Herring River, Harwich; Manchester Harbor; Nobscusset Harbor, Dennis; Plymouth Harbor, Plymouth; Quisset Harbor, Falmouth; Scituate Harbor, Scituate; Skaket Channel, Brewster; Vineyard Haven Harbor.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Allen's Harbor, Harwich; Connecticut River, Holyoke; Connecticut River, West Springfield; Duxbury Harbor, Duxbury; Falmouth Inner Harbor, West Falmouth Harbor, Wild Harbor, Waquoit Bay, Falmouth; Gloucester Inner Harbor; Green Harbor, Marshfield; Herring River, Harwich; Nobscusset Harbor, Dennis; Plymouth Harbor, Plymouth; Quisset Harbor, Falmouth; Skaket Channel, Brewster; Vineyard Haven Harbor.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of the work done during the year 1929, for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows.

ALLEN'S HARBOR, HARWICH

During the year the erosion of the shore easterly of the east jetty at Allen's Harbor became so serious that protective measures were imperative. Under letter contracts with the Owen W. Duffy Company the timber fence was repaired, extended 100 feet farther to the east and reenforced by riprap along the front. The work was completed Sept. 17, 1929, at a contract cost of \$2,338.90. Toward the cost of this work a contribution of \$600 was made by the town of Harwich.

Amount expended during the year, \$3,272.39. Total expenditure to Dec. 1, 1929, \$26,465.72.

ANNISQUAM RIVER, GLOUCESTER

Hearing was held Jan. 30, 1929, upon the petition of the Gloucester Maritime Association, and others, for dredging Annisquam River to a depth of 8 feet at mean low water.

A survey of the river showed a prevailing depth of about 5 feet at mean low water. On June 11, 1929, a contract was made with the Bay State Dredging and Contracting Company to dredge the existing channel to a depth of 8 feet at mean low water from deep water north of Wolf Hill to a point just south of Blynman Bridge, a distance of approximately 8,650 feet. The contract prices for this dredging were: for dredging and disposing of the dredged material at sea, 51 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. Work under this contract was completed Sept. 24, 1929, at a contract cost of \$26,035.88. Toward the cost of this dredging a contribution of \$7,000 was made by the city of Gloucester.

Amount expended during the year, \$29,016.99. Total expenditure to Dec. 1, 1929, \$170,975.20.

BASS RIVER, DENNIS AND YARMOUTH

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen of Dennis and Yarmouth for dredging in Bass River and for repairing the jetties at the entrance.

On Nov. 19, 1929, a contract was made with the Bay State Dredging and Con-

tracting Company, for the construction of an extension to the easterly jetty at the entrance to Bass River, at a contract price of \$6.15 per ton of 2,000 pounds for furnishing and placing all stone riprap and chips in the jetty. This extension is to be about 600 feet long, of heavy stone riprap with a core of small stone chips. Work has not yet begun under this contract. No contract has been made for the dredging requested.

Amount expended during the year, \$1,570.53. Total expenditure to Dec. 1, 1929, \$116,961.23.

BRANT ROCK, MARSHFIELD

The work done in 1927 and 1928 in placing concrete footing under a portion of the sea wall at Brant Rock was continued under letter contract of Apr. 23, 1929, with Frank H. Barry for placing 125 feet of such footing. The work was completed June 12, 1929, at a contract cost of \$971.37.

Amount expended during the year, \$1,153.97.

CONNECTICUT RIVER

Hadley and Northampton.—A survey has been made this year of the section of the Connecticut River, about 12,000 feet long, extending from the Northampton-Hadley highway bridge to Sheppard's Island in Hadley and Northampton. Serious erosion has taken place during the past thirty years in this section, particularly at a point just north of the bend in the river above Sheppard's Island. A part of the purpose of the survey was to secure information from which a model could be made by the Massachusetts Institute of Technology and experiments carried on to determine the most feasible method of checking this erosion. The Institute will assume the entire cost of the model and the experiments and will make the results available for the use of the Department.

Amount expended for survey work during the year, \$465.48.

Northfield.—The attention of the Department was called in the spring to the erosion on the westerly bank of Connecticut River north of the Mt. Hermon Bridge, progressing at a rate that threatened to damage the westerly abutment of the highway bridge.

A contract was made on May 21, 1929, with the Kelleher Corporation to furnish and place about 1,000 tons of stone riprap on the west bank of Connecticut River, north of this bridge, at a contract price of \$2.40 for each ton of riprap furnished in place. This work of protecting with stone riprap about 400 linear feet of the west bank of the river, was completed July 21, 1929, at a contract cost of \$2,888.82.

Amount expended during the year, \$2,934.81. Total expenditure to Dec. 1, 1929, \$9,028.90.

COTUIT HARBOR, BARNSTABLE

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen of Barnstable for dredging the entrance to Cotuit Harbor in Barnstable.

On July 30, 1929, a contract was made with William E. Burke to redredge a length of about 1,600 feet of the entrance channel to a depth of 7 feet at mean low water with a bottom width of 100 feet, and to remove a shoal. The contract prices for the work are: for dredging and disposing of the dredged material at sea, 65 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$15 per cubic yard. The work was completed Nov. 27, 1929, at a contract cost of \$10,340.85. Toward the cost of the dredging a contribution of \$5,000 was made by the town of Barnstable.

Amount expended during the year, \$10,993. Total expenditure to Dec. 1, 1929, \$81,303.99.

COTUIT SHORE PROTECTION, BARNSTABLE

The timber bulkhead built by the Commonwealth for the protection of a part of the shore at Cotuit was destroyed by severe storms during the year. In August a complaint was received that sections of the structure were floating in tide water and were likely to become a menace to navigation. A letter contract was made with Louis A. Byrne for the removal of the damaged portion of the bulkhead for the lump sum of \$289. This work was completed Oct. 20, 1929.

Amount expended during the year, \$245.65.

FALMOUTH SHORE PROTECTION

An inspection in the early spring found the riprap placed last year in front of the sea wall at Falmouth Heights, partially dislodged and scattered upon the beach. A letter contract was made with George W. Starbuck to replace this stone for the lump sum of \$254. This work was completed Apr. 10, 1929.

Amount expended during the year, \$254. Total expenditure to Dec. 1, 1929, \$57,963.13.

GUN ROCK — GREEN HILL SEA WALL, HULL

In October a request was received from residents in the vicinity for repairs to the sea wall built by the Commonwealth between Gun Rock and Green Hill. An examination of the structure showed the main sea wall in good condition, but the spur jetties in front seriously damaged and the beach eroded to a considerable extent.

A contract was made on Nov. 19, 1929, with Bradford Weston for the construction of three concrete spur jetties in front of this sea wall at a contract price of \$15 for each cubic yard of concrete in place in the completed work, including all excavation, backfilling and incidental work. No work has begun under this contract.

No expenditure during the year. Total expenditure to Dec. 1, 1929, \$37,906.21.

HOOSIC RIVER

Adams, Cheshire, Clarksburg, North Adams and Williamstown

In accordance with the provisions of chapter 28 of the Resolves of 1928, the Department made a special report to the Legislature, House No. 111 of 1929, relative to protecting the cities and towns in the Hoosic and Connecticut Valleys from flood damage. By chapter 36 of the Resolves of 1929 the Department was directed to make a further survey and study of this matter.

During the year a survey has been made of a large part of the south branch of the Hoosic River through the town of Adams and an examination made of this river in other towns of the Valley. A special report has been prepared for presentation to the Legislature of 1930, as required by the Resolve.

North Adams

At the beginning of the year work was in progress under contract of Oct. 16, 1928, with Warner Bros. and Goodwin, Inc., for excavation and the removal of debris to remedy conditions left by the flood in Hoosic River, North Adams. In the spring the work was extended to provide for additional excavation in the river just below a thickly settled part of the city. The whole work, under the provisions of chapter 310 of the Acts of 1928, was completed May 18, 1929, at a contract cost of \$17,213.36.

Amount expended during the year, \$10,868.40. Total expenditure to Dec. 1, 1929, \$21,271.67.

LEWIS BAY, BARNSTABLE AND YARMOUTH

The work of dredging a channel under contract of Oct. 23, 1928, with the Bay State Dredging and Contracting Company, was completed Jan. 8, 1929, at a contract cost of \$34,364.72. From the 9-foot contour in the outer bay to the town wharf a channel 9 feet deep at mean low water has been dredged to widths varying from 75 feet to 100 feet on the bottom, with increased width at the turns. Toward the cost of this work a contribution of \$1,500 was made by the town of Yarmouth and of \$17,309.29 by the town of Barnstable.

Amount expended during the year, \$23,874.51. Total expenditure to Dec. 1, 1929, \$66,631.28.

MANCHESTER HARBOR, MANCHESTER

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen of Manchester for the removal of Bow Bell Ledge, so called, in the entrance channel to Manchester Harbor. The dredging of a channel around this ledge in 1928 showed that the larger portion of the area is actually composed of boulders lying close together.

On Mar. 26, 1929, a contract was made with the Bay State Dredging and Con-

tracting Company for dredging three areas in Manchester Harbor, the area designated as "Bow Bell" in the entrance channel, to a depth of 8 feet at mean low water, and the other areas to a depth of 6 feet at mean low water. The contract prices were as follows: for dredging area known as Bow Bell Ledge and disposing of the dredged material, \$1.10 per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard; for dredging areas outside Bow Bell Ledge and disposing of dredged material, 49 cents per cubic yard, scow measurement. This dredging was completed June 4, 1929, at a contract cost of \$11,797.91. Toward the cost of the work a contribution of \$6,500 was made by the town of Manchester.

Under this contract the larger part of the area known as Bow Bell Ledge was removed. The survey made after the completion of the work showed above the 8-foot contour about 2,377 cubic yards of remaining material which cannot be removed without the use of explosives.

Amount expended during the year, \$13,298.52. Total expenditure to Dec. 1, 1929, \$163,776.57.

NEW BEDFORD HARBOR, NEW BEDFORD AND FAIRHAVEN

Harbor lines in New Bedford Harbor have been established by various acts of the Legislature beginning at a comparatively early date. Some difficulty has been found in determining the exact location of some of these lines, and confusion has resulted from the failure of the State lines at many points to coincide with the lines established by the U. S. War Department in this harbor. The matter was discussed at a hearing held by the U. S. Engineers at New Bedford and a suggestion adopted to attempt to fix a common Federal and State line.

After a survey by the U. S. War Department a Federal harbor line was established coinciding in part with certain of the State lines. The Department then recommended to the Legislature the adoption of the U. S. lines by the Commonwealth. Chapter 80 of the Acts of 1929 establishes the lines of the War Department as the State harbor lines. This action has resolved the difficulties of conflicting lines in this harbor.

NEW BEDFORD STATE PIER

The larger portion of this pier has been since September, 1927, under lease to the Lamport Manufacturing Supply Company, Inc.

The lease provides for the use by the Company of a specified portion of the pier for a period of ten years beginning Sept. 1, 1927, at a rental of \$6,000 per year for the first five years, and of \$10,000 per year for the five years following. The Company agrees by the terms of the lease to provide reasonable facilities for vessels desiring to use the present unenclosed area of the pier for water-borne commerce, as well as reasonable accommodation for loading and unloading cargo. The charges made for such uses of the pier are to be those established by the Department, effective since July 15, 1925.

During the year minor repairs have been made to the pier including jacking up the floor of a portion of the timber shed and the placing of new foundations underneath, repairs to the concrete chocks and the repainting of a large part of the outside of the pier.

Two transportation companies have occupied space this year in the Immigration Shed, the only building on the pier not included in the lease to the Lamport Manufacturing Supply Company, Inc.

Amount expended for operation and maintenance during the year, \$2,821.93.

Income during the year, \$8,272.75. Total expenditure for operation and maintenance to Dec. 1, 1929, \$50,714.09.

NOBSCUSSET HARBOR, DENNIS

Hearing was held Jan. 30, 1929, on the petition of the Selectmen for an additional barrier to prevent the movement of sand into the harbor.

A letter contract was made on June 18, 1929, with George W. Starbuck to build about 150 linear feet of timber fence and to place stone riprap around the outer end of the structure. This work was completed July 27, 1929, at a con-

tract cost of \$1,353.38. Toward this cost a contribution of \$750 was made, by the town of Dennis.

Amount expended during the year, \$1,606.38. Total expenditure to Dec. 1, 1929, \$41,385.22.

OAK BLUFFS SHORE PROTECTION

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen for protective work along the shore at the Highlands.

Examination of the locality showed that considerable erosion was taking place along this shore for a distance of about one-half mile and was undermining the highway to some extent.

A contract was made on July 2, 1929, with C. W. Blakeslee and Sons, Inc., for the construction of about 2,150 linear feet of creosoted timber bulkhead and 43 creosoted timber spur jetties, each 25 feet long, upon this shore. The contract prices for this work were: for furnishing all materials and constructing the main creosoted timber bulkhead, \$16 for each linear foot of completed bulkhead in place; for furnishing all materials and constructing the creosoted timber spur jetties, \$8 for each linear foot of completed spur jetty in place; for furnishing and placing all filling, \$2.70 for each cubic yard measured in place. This work was completed Oct. 28, 1929, at a contract cost of \$48,174.90. Toward the cost of the structure a contribution of \$25,000 was made by the town of Oak Bluffs.

After this work was completed a letter contract was made with Antonio White to place 820 cubic yards of additional filling back of the bulkhead for the lump sum of \$1,106. This work is now in progress.

Amount expended during the year, \$42,423.55. Total expenditure to Dec. 1, 1929, \$132,745.53.

COMMONWEALTH PROPERTY AT PLYMOUTH

The unexpended balance of the appropriation made in 1928 for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924, was used for the work necessary during the year.

A portion of the timber deck of the State Pier was replaced under an agreement of June 3, 1929, with George W. Starbuck, by which labor and equipment were furnished by the contractor, and material by the Commonwealth. The work was completed July 5, 1929, at a contract cost of \$929.48 for labor and equipment.

This year one caretaker has been employed permanently for the necessary work at the grounds and additional help has been secured as required.

Amount expended during the year, \$5,027.41. Total expenditure to Dec. 1, 1929, \$31,077.85.

PROVINCETOWN SHORE PROTECTION

Late in 1928 the attention of the Department was called to the serious erosion of the upland at Provincetown easterly of the end of the riprap placed along the State highway in 1924, 1926 and 1927. An examination showed the erosion proceeding for a considerable distance along the shore upon property privately owned.

It was decided in December to build as an experiment a section of wire fence upon this beach in order to observe the effect of the structure upon the continuance of erosion. A letter contract was made with George W. Starbuck to build about 72 linear feet of wire fencing along the shore. This work was completed Jan. 4, 1929, at a contract cost of \$149.76. Toward this cost a contribution of \$75 was made by the owners of the upland back of the fence. Up to the end of the present fiscal year the fence has been effective in checking erosion.

Amount expended during the year, \$149.76. Total expenditure to Dec. 1, 1929, \$28,559.87.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23,

1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

SCITUATE HARBOR, SCITUATE

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen for dredging an anchorage basin and removing shoals from the entrance channel at Scituate Harbor.

On Apr. 9, 1929, a contract was made with the Bay State Dredging and Contracting Company to dredge an anchorage basin along the north side of the entrance channel to a depth of 6 feet at mean low water, to remove certain shoals in the entrance channel to a depth of 8 feet at mean low water, and to remove shoals from a channel leading to the Scituate Yacht Club. The contract prices were: for dredging and disposing of material at sea, 54.8 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. The dredging was completed June 24, 1929, at a contract cost of \$38,995.60. Toward the cost of the work a contribution of \$20,000 was made by the town of Scituate. Under this contract the area of the anchorage basin in this harbor was increased about $4\frac{1}{2}$ acres.

Amount expended during the year, \$40,362.67. Total expenditure to Dec. 1, 1929, \$165,648.78.

SCITUATE SEA WALLS

During the year minor repairs were found necessary to sea walls at North Scituate and to the breakwater at Lighthouse Point at the Sand Hills, on account of erosion from frost and from the action of the sea. Under a letter contract with Frank H. Barry for such repairs, the work was completed Nov. 27, 1929, at a contract cost of \$517.55.

Amount expended during the year, \$439.92.

SEAPUIT RIVER, BARNSTABLE

Work under contract of Sept. 4, 1928, with the Trimount Dredging Company was completed Jan. 7, 1929, at a contract cost of \$24,227.84. This dredging has provided a channel 40 feet wide on the bottom and 6 feet deep at mean low water from the 6-foot contour in the West Bay entrance channel to the 6-foot contour in Cotuit Harbor.

Amount expended during the year, \$9,304.87. Total expenditure to Dec. 1, 1929, \$25,088.55.

WAQUOIT BAY, FALMOUTH AND MASHPEE

Work under letter contract of Nov. 2, 1928, with John A. Davis for repairing the breakwater at the harbor entrance by placing concrete in bags at low places in the structure, was completed Dec. 7, 1928, at a contract cost of \$1,274.

Amount expended during the year, \$275.65. Total expenditure to Dec. 1, 1929, \$57,424.50.

WEST BAY, BARNSTABLE

Work under contract of Jan. 9, 1928, with the Wianno Dredge Company, Inc., was completed Aug. 17, 1929, at a contract cost of \$17,796.66.

Amount expended during the year, \$7,121.23. Total expenditure to Dec. 1, 1929, \$109,931.84.

WEST HARWICH SHORE PROTECTION

Work under letter contract of Nov. 20, 1928, with Louis A. Byrne for the construction of two sections of wire fence as an experiment in checking erosion along the shore was completed Dec. 8, 1928, at a contract cost of \$569.80.

Hearing was held Jan. 30, 1929, on the petition of Grace E. Phipps, and others, for protective work along the shore for a distance of about 3,000 feet where serious erosion has been proceeding for some years.

As the sections of wire fence built in 1928 appeared to be reducing the erosion, it was decided to extend this method of protection along the shore.

A contract was made on Oct. 29, 1929, with Edward E. Crowell and Isaiah Kelley to construct about 2,250 linear feet of wire fence extending along the beach at West Harwich with spur jetties 24 feet long and 54 feet apart extend-

ing at right angles to the fence, at the following contract prices: for furnishing materials and constructing the wire fence, including all excavation, back filling and the furnishing, placing and weighting of the seaweed and brush, and maintaining fence for one year, \$1.55 for each linear foot; for furnishing materials and constructing spur jetties, including all incidental work and maintenance for one year, \$1.55 for each linear foot. Work under this contract has not yet begun.

Amount expended during the year, \$1,009.30. Total expenditure to Dec. 1, 1929, \$13,493.41.

WINTHROP SHORE

Point Shirley Sea Wall.—For several years the sea wall at Point Shirley has shown gradual deterioration due to erosion by the sea, until at certain points the face of the wall was cut away to a depth of two feet.

On Apr. 2, 1929, a contract was made with the National Gunitite Contracting Company to repair the face and top of the wall, with cement mortar placed by the gunitite process. The contract prices for this work were: for all costs of transporting plant and men to the site of the work and back to the original starting point upon completion of the work, the lump sum of \$220; for furnishing all reenforcing steel, 13 cents for each square foot measured in place; for furnishing all cement, sand, water, power, equipment and all labor and materials required to perform the necessary chipping, cleaning and placing of the gunitite, \$3.80 for each bag of cement used in the completed gunitite work; for excavating a trench along the face of the wall, \$1 for each cubic yard measured in place. This work was completed Apr. 29, 1929, at a contract cost of \$1,925.82.

Amount expended during the year, \$2,046.22. Total expenditure to Dec. 1, 1929, \$97,343.71.

MISCELLANEOUS

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Cedar Pond, Carver; Center Lake, Becket; Crystal Lake, Newton; Furnace Pond, Pembroke; Great Herring Pond, Plymouth; Gould Pond, Holland; Greenwater Pond, Becket; Hampton Ponds, Easthampton; Harts Pond, Chelmsford and Westford; Knop Pond, Groton; Lake Chaubunagungamaug, Webster; Lake Mascuppic or Tyngs Pond, Tyngsborough; Lake Quannapowitt, Wakefield; Lake Quinsigamond, Shrewsbury and Grafton; Lake Whalom, Lunenburg; Lake Winthrop, Holliston; Learned's Pond, Framingham; Little Alum Pond, Brimfield; Little Sandy Bottom Pond, Pembroke; Long Pond, Brewster and Harwich; Lovell's Pond, Barnstable; Maquan Pond, Hanson; Pontoosuc Lake, Pittsfield; Silver Lake, Pittsfield; Stockbridge Bowl, Stockbridge; Ward Pond, Ashburnham; Warner Lake, Greenfield; Wedge Pond, Winchester; Yokum Pond, Becket.

During the year, surveys of the following great ponds have been made:

Gould Pond or Lost Lake, Brimfield-Holland

Area at time of survey	14.69 acres
Area of natural pond	13.52 acres
Maximum depth	11.8 feet

Hart or Baptist Pond, Chelmsford and Westford

Area at time of survey	93.84 acres
Area of natural pond	80.87 acres

The area of this pond is divided between the two towns as follows:

86.83 acres in Chelmsford
7.01 acres in Westford
Maximum depth 22.0 feet

Wedge Pond, Winchester

Area at time of survey	24.38 acres
Area of natural pond	20.99 acres
Maximum depth	18.0 feet

Winthrop Pond, Holliston

Area of pond at high water line	101.08 acres
Area of natural pond	91.30 acres
Maximum depth	20.5 feet

These areas are exclusive of the areas of three islands within this pond which are owned by the Commonwealth, the areas of which at high water line are as follows:

Rat Island	0.56 acres
Berry Island	0.21 acres
Grape Island	0.45 acres

Amount expended during the year, \$1,728.57. Total expenditures, \$13,872.13.

ACCESS TO GREAT PONDS

During the year no petitions relative to public access to great ponds were filed in accordance with the provisions of chapter 453 of the Acts of 1923.

A special report under date of December 31, 1928, was made to the Legislature relative to acquiring a right of way for public access to Lake Chaubunagungamaug in the town of Webster. The report discusses three locations suggested for the public right of way to this pond and concludes:

"The Joint Board is of the opinion that any one of these three parcels of land above referred to would give the public adequate approach to the shores of this lake. While there are a number of amusement parks on the shores of this pond available for public use, the Board is of the opinion that at least one public right of way should be taken. Any one of the three locations referred to would give a satisfactory approach. The grade crossing at Union Point is a serious obstacle, but it is believed that during the summer months, when this location would be of use, arrangements should be made with the railroad to protect this crossing.

The Board believes that the approach should be acquired by purchase and not by lease, and recommends that the choice of the location be left to the local authorities subject to the approval of the Department."

PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,290 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Five acres of sand dunes have been covered with brush and four acres of bayberry were transplanted to reinforce areas previously planted.

In addition 18,000 native pines on the sod have been transplanted and 180,000 seedlings of Scotch and Austrian pines planted.

During the year a section of State highway about $11\frac{1}{4}$ miles long was built over a portion of these lands to connect with a town road at the westerly end of Provincetown. This highway makes an excellent bathing beach accessible for public use.

The sum of \$164.40 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying certain areas on these lands.

Under the provisions of chapter 77 of the Acts of 1864, certain upland and flats of the Province Lands were ceded to the Federal Government for the Long Point Military Reservation. In accordance with an Act of Congress approved June 7, 1926, about 525 acres of this property have been reconveyed to the Commonwealth. The portion returned to the State is an area known as Long Beach. The land consists of a sand ridge of varying width extending along the high water line, and of certain marsh lands north of the ridge. Under the provisions of section 2 of chapter 91 of the General Laws, the Department now exercises jurisdiction over this property.

Of the area originally granted the Federal Government has retained four parcels, one upon which the Wood End Light is located, one for the Coast Guard Station, and two for the range beacons used in testing U. S. Naval submarines. Over three of these parcels, however, the National Government provides that the Commonwealth shall have a right of way, not exceeding 100 feet in width, and the privilege of maintaining thereon a public highway, in a location subject to the approval of the Federal Government.

Amount expended during the year, \$5,000. Total expenditure to Dec. 1, 1929, \$126,072.28.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, resolves of 1917, cooperation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$4,000.

During the year the United States Geological Survey established two new gauging stations, one on the Connecticut River south of the Boston and Maine Railroad Bridge in Montague, and one at Gibbs Crossing on the Ware River in Ware. One third of the cost of these stations was paid by the Federal Government and two-thirds by the Metropolitan District Water Supply Commission. The stations will, however, be operated jointly by the U. S. Geological Survey and by this Department.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation stations previously established in connection with the topographical survey of the Commonwealth and the town boundary survey, which have been lost or destroyed, and to obtain the geographical positions of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation stations were determined and permanently marked on the ground, and geographical positions furnished to the Land Court; 26 stations in Chatham; 5 stations at Cotuit in the town of Barnstable; 9 stations in Nantucket.

Amount expended during the year, \$1,000.

TOWN BOUNDARY LINES

Under the provisions of chapter 96 of the Acts of 1881, the courses of the boundary lines between adjacent cities and towns bordering upon the sea were

defined by the Harbor and Land Commissioners to the exterior line of the Commonwealth. During the year requests have been received from several towns for the establishment of permanent ranges on the land to determine the direction of the boundary line in tide water from the shore to the exterior line of the Commonwealth.

The demand for this work appears to be due largely to changes in the laws governing fishing and to fishing regulations making necessary the accurate determination of town boundary lines in tide water. It seems likely that the need for the establishment of these ranges will increase in the future. Considerable work is, of course, involved in the fixing of these points. This year boundary lines in tide water have been determined in the towns of Chatham, Orleans, Eastham and Wellfleet.

Certain work has also been done in reproducing the locations of several town boundary monuments lost or destroyed, and in re-establishing by this means portions of town boundary lines in Eastham, Wellfleet, Milton, Grafton, Mendon, Shrewsbury and Quincy.

LICENSES AND PERMITS

During the year 105 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 104 permits for miscellaneous purposes. The Department also approved 111 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

DETAILS OF EXPENDITURES FOR WATERWAYS

FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859-1929, INCL.

Payments	To Nov. 30, 1928	1929	Total
Boston Harbor	\$1,718,560 62 ¹		
Dredging and filling		\$910 21	
Special appropriations		11,792 60	\$1,731,263 43
Commonwealth Flats, East Boston	3,071,332 79 ²		
Special appropriations		16,182 32	3,087,515 11
Commonwealth Flats, So. Boston	4,872,087 79		
Streets, piers and railroads		35 90	4,872,123 69
Castle Island	735,155 95		
Dredging and filling		1,390 50	
Castle Island sea wall repairs		837 74	737,384 19
Commonwealth Pier No. 5, South Boston			
Construction	4,014,790 45	—	4,014,790 45
Operation and supervision	1,205,637 83	100,669 70	1,306,307 53
Commonwealth Pier No. 1, East Boston			
Construction	1,199,703 23		1,199,703 23
Operation and Maintenance	87,734 72	7,709 98	95,444 70
Commonwealth Pier No. 6	1,092,149 06	—	1,092,149 06
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,959 61 ⁴	—	385,959 61
Mystic River	428,463 41 ⁵	—	428,463 41
Malden River	32,268 70 ⁶	—	32,268 70
Chelsea Creek	60,519 88	—	60,519 88
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property of Commonwealth	663,474 14		
Maintenance of property		128,080 34	791,554 48
	<u>\$22,790,702 43</u>	<u>\$267,609 29</u>	<u>\$23,058,311 72</u>

¹ Contribution by Quincy Market Cold Storage and Warehouse Corporation, \$4,000.00.

² Appropriated by City of Boston, \$10,000.00.

³ \$17,788.73 additional paid by State Treasurer from Development of Port of Boston Loan Sinking Fund.

⁴ Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation, \$38,600.00; paid by State Treasurer for land taking, \$3,725.27.

⁵ Contribution by Merrimac Chemical Company, \$19,182.50; contribution by Beacon Oil Company, \$50,000.00.

⁶ Expended by United States Government, \$31,000.00; contribution by Standard Oil Company of New York, \$600.00.

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1929, INCLUSIVE

<i>Locality and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
Cottage Park Channel, Winthrop, dredging . . .	\$1,000 00	\$22,012 08
Dorchester, Easterly Shore, dredging and survey . . .	1,000 00	128,948 71
Harbor View, dredging	—	146 00
Hingham Harbor, dredging	6,500 00	41,595 12
Hough's Neck Channel, Quincy, dredging	3,500 00	29,856 28
Island End River, Everett, survey	—	264 10
Jeffries Point Channel, dredging	—	3,009 11
Mystic River (near Lawrence and Wiggin's Wharf), dredging	—	5,927 70
Neponset River, dredging	10,000 00	101,751 12
Old Harbor Cove, dredging	—	9,821 69
Orient Heights Channel, dredging	—	45,323 67
Pemberton Point, Hull, breakwater	60,000 00	90,520 98
Pleasant Park Yacht Club Channel, dredging	3,000 00	14,513 92
Point Allerton, Hull, sea wall	50,000 00	75,127 05
Point Shirley, dredging	—	3,713 37
Quincy Bay, dredging	7,150 00	71,263 17
Shirley Gut, Boston-Winthrop, dredging	—	2,110 96
South Boston, Southerly Shore, dredging	—	129,542 08
Stony Beach, Hull, sea wall	—	12,326 09
Town River, Quincy, survey and dredging	14,750 00	16,643 58
Weir River, Hull, dredging	25,000 00	130,963 51
Wessagussett Channel, dredging	—	815 20
Weymouth, Fore River, dredging	8,250 00	69,469 09
Winthrop Harbor Channels, dredging	1,700 00	39,783 58
	<hr/>	<hr/>
	\$191,850 00	\$1,045,448 16

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK
FROM DEC. 1, 1928, TO NOV. 30, 1929

<i>Location and Character of Work</i>	Contributions	Expenditures
Allen's Harbor, Harwich, timber fence, riprap and jetties	\$600 00	\$3,272 39
Annisquam River, Gloucester, dredging	7,000 00	29,016 99
Bass River, Dennis and Yarmouth, survey	1,500 00	1,570 53
Brant Rock, Marshfield, sea wall repairs	1,230 45	1,153 97
Brewster, Skaket Inlet, survey	—	617 19
Connecticut River, surveys	—	465 48
Connecticut River, Hadley, earth dike and riprap	—	5,947 95
Connecticut River, Hatfield, earth dike and riprap	—	4,689 95
Connecticut River, Northfield, riprap	—	2,934 81
Cotuit Harbor, Cotuit, dredging	5,000 00	11,238 65
Duxbury Harbor, Duxbury, survey	—	213 30
Falmouth Heights, Falmouth, sea wall repairs	—	254 00
Great Ponds, survey	—	1,728 57
Green Harbor, Marshfield, survey	—	165 19
Gun Rock Point, Hull, breakwater repairs	6,135 41	1,828 16
Hoosac River, North Adams, excavation	—	10,868 40
Improvement of rivers and harbors, general expenses	—	1,817 69
Ipswich River, Ipswich, survey	—	90 00
Lewis Bay, Barnstable, dredging	2,309 29	23,874 51
Manchester Harbor, Manchester, dredging	6,500 00	13,298 52

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued**Location and Character of Work*

Contributions Expenditures

Nobscusset Harbor, Dennis, timber fence and riprap	\$750 00	\$1,606 38
Oak Bluffs, bulkhead and jetties	25,000 00	42,423 55
Plymouth Harbor, survey	—	54 49
Provincetown Harbor, shore protection	75 00	149 76
Quamquisset Harbor, Falmouth, survey	—	710 31
Rock Harbor, Orleans, dredging	—	1,159 08
Scituate Harbor, dredging	20,000 00	40,362 67
Scituate:		
Cedar Point, sea wall repairs	—	139 92
North Scituate, surfside sea wall repairs	—	300 00
Seapuit River, Barnstable, dredging	—	9,304 87
Waquoit Bay, Falmouth, breakwater repairs	—	275 65
West Bay, Barnstable, dredging	—	7,121 23
West Harwich, shore protection	—	1,009 30
Wild Harbor, Falmouth, survey	—	241 84
Winthrop Shore, Winthrop, sea wall repairs	—	2,046 22
Wrecks and obstructions, removal of	—	8,373 35
	<hr/>	<hr/>
	\$76,100 15	\$230,324 87

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1929, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Locality and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging	—	\$119,792 10
Allen's Harbor, Harwich, shore protection riprap and jetties	\$8,227 50	\$26,465 72
Allen's Pond, Dartmouth, survey	—	195 95
Angle Tree Monument, reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	170,975 20
Apponansett Harbor and River, Dartmouth, survey, dredging and stone breakwater	—	55,786 05
Barnstable Harbor, dredging	1,500 00	18,554 64
Bass River, Beverly, dredging	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties, dredging and survey	4,000 00	116,961 23
Beach Street, Scituate. — See Scituate.		
Beverly Harbor, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, sea wall	6,556 60	24,756 08
Brewster, Skaket Inlet, survey	—	617 19
Buck's Creek, Chatham, jetties, survey and dredging	2,500 00	39,719 69
Buzzard's Bay, Falmouth, survey	—	166 11
Cape Poge, Edgartown, cut through beach, jetties and riprap	16,500 00	42,396 50
Cataumet Harbor. — See Megansett Harbor.		
Cedar Point, Scituate. — See Scituate.		
Centerville River, Barnstable, dredging	1,500 00	7,603 22
Cohasset Harbor, Cohasset, breakwater and dredging	33,691 88	96,646 39
Concord River, Billerica, removing boulders	150 00	1,664 59

¹ \$50,000.00 expended by U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
Connecticut River, investigation of navigation and surveys	—	\$8,878 96
Connecticut River, Agawam, protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap	\$640 00	25,789 02
Connecticut River, Hadley, protective work, diversion wall and survey	5,000 00	118,740 95 ¹
Connecticut River, Hatfield, dikes and riprap	1,000 00	51,238 61
Connecticut River, Holyoke, dredging and protective work	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—	1,195 32
Connecticut River, Northampton, protective work	—	1,524 20
Connecticut River, Northfield, riprap	—	9,028 90
Connecticut River, South Hadley, wall	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, protective work	—	12,510 08 ²
Conservation of waters, investigation	—	67,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	13,183 38	81,303 99
Cuttyhunk Harbor, Gosnold, jetties and dredging	9,000 00	70,754 18
Deacon's Pond Harbor.—See Falmouth Inner Harbor.		
Duxbury Bay and Harbor, dredging	2,000 00	42,815 59
East Bay, Osterville, jetties, dredging and removing scows	10,000 00	70,924 23
Edgartown Harbor, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—	19,660 43
Essex County beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 ³
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	16,222 54	57,963 13
Falmouth Inner Harbor, dredging, jetties, wall and riprap	29,000 00	143,734 26
First and Second Cliffs, Scituate.—See Scituate.		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Glades, North Scituate.—See Scituate.		
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges	7,500 00	118,994 65
Great Head, Winthrop.—See Winthrop Shore.		
Great Ponds, survey	—	13,872 13
Green Harbor, Marshfield, jetties, dredging, and survey	—	76,632 04
Gun Rock Point, Hull, breakwater	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and fence	2,500 00	58,181 14
Herring River, Wellfleet, dikes and ditches	10,000 00	34,509 38

¹ From 1888 inclusive.² From 1891 inclusive.³ \$5,000.00 expended by U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Hoosac River, North Adams, excavation and survey	—	\$21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and survey	\$8,882 06	37,906 21
Humarock Beach, Scituate. — See Scituate.		
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of rivers and harbors, general ex- penses	—	32,935 68
Ipswich River, Ipswich, jetty,* wall, riprap and dredging	3,800 00	59,079 55
King's Beach, Swampscott, removal of obstruc- tion	—	166 41
Lake Anthony, Oak Bluffs, jetties and dredging	5,000 00	75,531 24
Lake Quannapowitt, Wakefield, investigation .	—	345 32
Lewis Bay, Barnstable, survey and dredging .	18,809 29	66,631 28
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Lynn Harbor, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	163,431 53
Manchester Harbor, survey, jetties and dredging	70,000 00	163,776 57
Mattapoisett Harbor, survey	—	255 48
Megansett Harbor, dredging	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head jet- ties, dredging, sea wall and riprap	2,700 00	116,992 11
Merrimack River, investigation and survey .	—	1,208 50
Mill River, Gloucester, survey and dredging .	300 00	24,899 59
Mitchell's River, Chatham, survey and dredging	6,000 00	23,113 92
Nahant, survey	—	82 15
Namequoit River and Pleasant Bay, dredging .	5,500 00	28,529 62
Nantucket, survey of Sesachacha Pond . . .	—	110 66
Nantucket Harbor, dredging	5,000 00	58,982 52
Nauset Harbor and Town Cove, dredging . .	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74 ¹	494,133 33
New Bedford State Pier, operation and mainte- nance	—	50,714 09
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis, breakwater, dredging and riprap	1,950 00	41,385 22
North River, Marshfield, surveys and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	704 52
North Scituate. — See Scituate.		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties .	52,500 00	132,745 53
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging .	1,000 00	15,295 89
Orleans, survey	—	104 18
Palmer's Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and re- pairing jetties	1,200 00	198,010 32

¹ Paid by Surety Company.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

Locality and Character of Work	Contributions by		Total Expenditure
	Municipality or Others		
Paskamansett River, Dartmouth, dredging and jetty	—		\$5,227 68
Penikese Island, Gosnold, pile wharf and survey	—		5,192 95
Pines River, Revere and Saugus, survey	—		904 80
Pleasant Bay, Chatham, dredging	\$600 00		2,364 33
Plum Island River, Newbury and Newburyport, survey	—		983 31
Plymouth Harbor, dredging and removing old piling	71,794 55 ¹		282,686 62
Plymouth Memorial Park, maintenance	—		31,077 85
Point Shirley, Winthrop.— See Winthrop Shore.			
Popponnesett Bay, Barnstable and Mashpee, dredging	—		46,252 33
Powow River, Amesbury, dredging channel and riprapping wall	—		502 94
Province Lands, Provincetown, reclamation	—		126,072 28
Provincetown Harbor, shore protection	75 00		28,559 87
Quamquisset Harbor, Falmouth, survey	—		710 31
Quansett Harbor, Orleans, survey and dredging	500 00		2,194 50
Red Brook Harbor, Bourne, removing pier	—		275 00
Revere, stone breakwater	—		60,397 93
Rock Harbor, Orleans, dredging	2,400 00		20,070 96
Rockport Harbor, dredging and removing rocks	500 00		15,555 58
Salem Harbor, survey	—		1,509 92
Salt Pond River, Eastham, survey	—		210 11
Salter's Point, Dartmouth, breakwater	4,500 00		42,939 57
Sand Hills, Scituate.— See Scituate.			
Sandwich Harbor, dredging channel, riprap and jetties	—		80,579 84
Saugus River, Lynn and Saugus	2,000 00		20,845 17
Scituate, shore protection:—			
Beach Street, Scituate, wall and jetties	17,333 52		34,782 50
Cedar Point, Scituate, wall and breakwater	21,446 64		37,445 32
First and Second Cliffs, Scituate, wall and riprap	2,297 92		13,053 52
Glades, North Scituate, filling and riprap	13,250 78		29,534 54
Humarock Beach, Scituate, survey wall and jetties	37,816 38		57,279 06
North Scituate, Surfside, spur jetties	1,757 60		16,866 19
Sand Hills, Scituate, wall and jetties	4,511 26		12,624 06
Third Cliff, Scituate, riprap and survey	75,193 10		121,353 34
Scituate Harbor, dredging and surveys	33,300 00		165,648 78
Scorton Harbor, Sandwich, jetty and dredging	500 00		17,774 34
Seapuit River, Barnstable, dredging	13,000 00		25,088 55
Sesuit Harbor, Dennis, jetty	1,500 00		24,555 10
Shirley Gut, survey	—		97 05
Sippican Harbor, Marion, survey	—		7 17
Smith's Cove, Gloucester, survey and dredging	3,875 00		13,466 16
South River, Salem, dredging	3,000 00		13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—		203 42
Stage Harbor, Chatham, dikes and survey	—		10,803 01
Taunton, Brockton waterways, investigation	—		5,278 18
Taunton River, survey and dredging	12,500 00		28,697 18

¹ \$57,000.00 expended under direction of U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Taunton River, Boston Harbor Canal, survey .	—	\$9,932 75
Taunton River, Massachusetts Bay Canal, survey	—	11,786 71
Third Cliff, Scituate. — See Scituate.		
Vineyard Haven Harbor, repairing sea wall .	\$2,380 50	11,945 01
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000 00	45,518 25
Waquoit Bay, Falmouth, breakwater, wall and bulkhead	2,000 00	57,424 50
Wareham River, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey .	9,713 98	25,099 86
Watch Hill, Chatham, survey and riprap . .	—	14,968 75
Water conservation. — See conservation of waters.		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable, and Osterville, survey, jetties and dredging	15,000 00	109,931 84
West Falmouth Harbor, Falmouth, dredging and breakwater	11,473 75	63,350 92
West Harwich, survey	3,500 00	13,493 41
Westfield River, Westfield, survey and jetties .	—	6,037 29
Westport Harbor, Westport, jetty extension .	—	19,025 07
Wild Harbor, Falmouth, jetty and dredging .	5,000 00	36,379 55
Winthrop Shore, sea walls and protective work	40,500 00	97,343 71
Witchmere Harbor, Harwich, jetties and dredging	3,000 00	55,541 69
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tidewater	—	18,836 43
Yarmouthport Harbor, survey	7,000 00	95,977 37
	\$1,008,088 42	\$6,564,451 78

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1929, are shown in the following tables furnished by the Chief of Engineers, U. S. Army: —

TABLE No. 1. — *Localities at Present under Improvement*

(Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1929)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$500,900 00	\$500,900 00
Gloucester Harbor	538,183 00	538,183 00
Beverly Harbor	246,690 41	246,690 41 ¹
Salem Harbor	71,368 66	71,368 66
Lynn Harbor	471,937 00	471,937 00
Mystic River	306,684 84	306,684 84
Boston Harbor	13,393,281 24	13,439,862 58
Dorchester Bay and Neponset River	95,166 23	136,908 90
Weymouth Fore River	641,150 00	641,150 00 ²
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	104,590 98	126,590 98
Plymouth Harbor	421,184 80	421,184 80

¹ In addition \$100,000 has been contributed by local interests.

² In addition \$108,400 has been contributed by local interests.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Cape Cod Canal	\$11,704,205 69 ¹	\$11,829,555 45
Operating and care of Cape Cod Canal	—	258,283 82
Provincetown Harbor	348,062 72	348,062 72
Pollock Rip Shoals, Nantucket Sound	1,269,843 06	1,290,000 00
Harbor of Refuge at Nantucket	633,348 64	688,473 50
New Bedford and Fairhaven Harbor	935,852 58	938,110 00
Fall River Harbor	411,614 07	411,614 07
Taunton River	204,329 19	204,689 18
	<hr/>	<hr/>
	\$32,325,393 11	\$32,897,249 91

TABLE No. 2. — *Localities in Which Work is Not Now in Progress*

(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River	\$404,466 72	\$404,466 72
Malden River	149,950 00	149,950 00
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 34	20,150 41
Buzzards Bay Harbor	2,500 00	2,500 00
Canapitset Channel	5,312 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	39,000 00
Hyannis Harbor	221,267 07	221,267 07
Ipswich River	5,617 91	7,500 00
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	24,300 00
Marblehead Harbor	833 42	1,900 00
Martha's Vineyard Harbor	7,000 00	7,000 00
Powow River	50,940 72	51,000 00
Rockport Harbor	91,229 25	91,232 57
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	60,000 00
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
	<hr/>	<hr/>
Total	\$3,660,094 69	\$3,682,590 97
	<i>Recapitulation</i>	
Total of Table No. 1	\$32,325,393 11	\$32,897,249 91
Total of Table No. 2	3,660,094 69	3,682,590 97
	<hr/>	<hr/>
Grand total	\$35,985,487 80	\$36,579,840 88

¹ Includes \$11,500,000 purchase price of canal.

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1929

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper ¹	\$13,393,281 24	\$13,439,862 58
Mystic River	306,684 84	306,684 84
	<hr/>	<hr/>
	\$13,699,966 08	\$13,746,547 42

¹ Including Chelsea Creek.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
160	West Bay, Barnstable, dredging . . .	Wianno Dredge Company, Inc. . .	Jan. 9, 1928
176	Seapuit River, Barnstable, dredging . .	Trimount Dredging Company . .	Sept. 4, 1928
180	Connecticut River, Hatfield, earth dike and riprap.	Kelleher Corporation	Oct. 2, 1928
182	Hoosic River, North Adams	Warner Bros. & Goodwin, Inc. . .	Oct. 16, 1928
183	Commonwealth Pier No. 5, build engineering offices.	George W. Nicoll Co., Inc. . . .	Oct. 23, 1928
184	Lewis Bay, Barnstable and Yarmouth, dredging.	Bay State Dredging and Contracting Co.	Oct. 23, 1928
186	Commonwealth Pier No. 5, stairs to cargo hoists	Progressive Iron Works, Inc. . .	Dec. 11, 1928
187	Commonwealth Pier No. 5, motor generator set	M. B. Foster Electric Company . .	Jan. 29, 1929
188	Storehouses on D and E streets, repairing platforms	Hill & Delaney	Feb. 19, 1929
189	Commonwealth Pier No. 5, laying water pipes.	M. DeSisto Company	Mar. 5, 1929
190	Point Shirley, Winthrop, repairs to sea wall.	National Gunite Contracting Company.	April 2, 1929
191	Manchester Harbor, dredging	Bay State Dredging and Contracting Company.	Mar. 26, 1929
192	Commonwealth Pier No. 5, additional heating and sprinklers.	Pierce & Cox	Apr. 2, 1929
193	Scituate Harbor, dredging	Bay State Dredging and Contracting Company.	April 9, 1929
194	Commonwealth Pier No. 5, building room for restaurant.	Carl S. Helrich	April 23, 1929
195	Commonwealth Pier No. 5, painting rooms and passageways.	Thomas J. Walsh	April 16, 1929
196	Wollaston Channel and Basin, dredging.	Bay State Dredging and Contracting Company.	May 28, 1929
197	Commonwealth Pier No. 5, replacing broken lights of glass.	Maurice M. Devine	May 7, 1929

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1929

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929	Estimated Amount of Contract
Completed Aug. 17, 1929	For dredging and disposing of dredged material, 42 cents per cubic yard of material measured in place.	\$6,510 46	\$17,796 66	\$18,074 00
Completed Jan. 7, 1929	For removing boulders, \$14 per cubic yard. For dredging and disposing of dredged material within specified areas, 32 cents per cubic yard, measured in place.	8,822 30	24,227 84	23,200 00
Completed Dec. 1, 1928	For removing and disposing of boulders, \$20 per cubic yard. For furnishing and placing riprap, \$2.35 per ton of stone in place on bank of river.	4,579 63	30,531 52	30,000 00
Completed May 18, 1929	For furnishing materials and constructing dike, 84 cents for each cubic yard measured in place in completed work. For excavating material from bed of river or on side slopes and depositing it within fifty feet of point where excavated, grading fill, and all incidental work, \$1.00 for each cubic yard measured in place.	7,912 12	17,213 36	19,000 00
Completed Feb. 21, 1929	For excavating material from river and disposing of it in disposal areas west of Brown Street Bridge and south of concrete wall at Willow Dell Street, \$2.00 for each cubic yard measured in place. For excavating boulders and disposing of them in area designated, \$4.00 for each cubic yard. For removing from river bed stumps, logs or other debris, \$25 for each obstruction removed.	52,208 65	68,163 58	64,000 00
Completed Jan. 8, 1929	For furnishing labor and materials and building engineering offices and rooms, \$53,630. For removing broken glass and furnishing and setting new wire glass, \$1.30 for each light of glass placed. For reputting glass, 80 cents per light of glass.	22,158 01	34,364 72	30,020 00
Completed Jan. 30, 1929	For dredging and disposing of dredged material, 52 cents for each cubic yard measured in scows. For removing boulders, \$20 for each cubic yard.	582 00	582 00	582 00
Completed Mar. 13, 1929	For furnishing labor and materials for building stairs to cargo hoists, \$97 for each set of stairs. For furnishing labor and materials and installing motor generator set, the lump sum of \$1,689.	1,832 10	1,832 10	1,689 00
Completed Mar. 20, 1929	Unit prices	3,826 61	3,826 61	2,310 00
Completed Apr. 13, 1929	Lump sum of \$1,300	1,300 00	1,300 00	1,300 00
Completed Apr. 29, 1929	For cost of transporting men and plant, \$220. For furnishing all reinforcing steel and bolts and fastening, 13 cents per square foot measured in place. For furnishing cement, sand, water, power, equipment, labor and materials, \$3.80 for each bag of cement used in completed gunite work.	1,925 82	1,925 82	1,814 00
Completed June 4, 1929	For excavating trench along face of wall, \$1.00 per cubic yard measured in place. For dredging area "A," \$1.10 per cubic yard, scow measurement. For removing and disposing of boulders, \$20 for each cubic yard.	11,797 91	11,797 91	12,500 00
Completed May 7, 1929	For dredging areas "B" and "C" 49 cents per cubic yard, scow measurement. Lump sum of \$1,830	1,878 00	1,878 00	1,830 00
Completed June 24, 1929	For dredging and disposing of material at sea, 54.8 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard. Lump sum of \$9,829	38,995 60	38,995 60	39,000 00
Completed Nov. 15, 1929	Lump sum of \$5,400	5,500 00	5,500 00	5,400 00
Completed June 22, 1929	For dredging, 55 cents per cubic yard, scow measurement. For removing boulders, \$20 for each cubic yard.	16,564 35	16,564 35	16,600 00
Completed June 25, 1929	For removing broken glass, furnishing and setting new wire glass, 92 cents for each light of glass set.	1,044 20	1,044 20	1,012 00

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
198	Connecticut River, Northfield, riprap .	Kelleher Corporation .	May 21, 1929
199	Oak Bluffs, timber bulkhead and jetties.	C. W. Blakeslee & Sons, Inc. .	July 2, 1929
200	Annisquam River, dredging . . .	Bay State Dredging and Contracting Company.	June 11, 1929
201	Savin Hill Bay and Dorchester Bay, dredging.	Trimount Dredging Company .	July 16, 1929
202	Cotuit Harbor, Barnstable, dredging .	William E. Burke . . .	July 30, 1929
204	D Street Storehouse, repairs to platforms.	Geo. W. Nicoll Co., Inc. . .	Sept. 3, 1929
205	Town River, Quincy, dredging . . .	Bay State Dredging and Contracting Company.	Sept. 17, 1929
206	Boston Airport, East Boston, moving hangars.	The John Cavanagh and Son Building Moving Co.	Sept. 4, 1929
208	Commonwealth Pier 5, wooden bridges over railroad tracks.	Maurice M. Devine . . .	Oct. 22, 1929
209	Motor boat <i>Buoyant</i> , building house .	Willis J. Reid . . .	Oct. 22, 1929
210	Revere, removal of wreck . . .	The Rendle Corporation . .	Oct. 8, 1929
211	West Harwich, shore protection . .	Edward E. Crowell and Isaiah Kelley.	Oct. 29, 1929
213	Bass River, Yarmouth, extension of easterly jetty.	Bay State Dredging & Contracting Co.	Nov. 19, 1929
214	Commonwealth Pier 5, repairs to timber platforms.	W. H. Ellis & Son Co. . .	Nov. 27, 1929
215	Hull, sea wall; Gun Rock—Green Hill, spur jetties.	Bradford Weston . . .	Nov. 19, 1929
216	Boston Airport, miscellaneous repairs to hangars of M. N. G.	Hill & Delaney . . .	Nov. 26, 1929
217	Commonwealth Pier 5, repairs to floor surfacing.	Reynolds Bros., Inc. . .	Nov. 27, 1929
218	Ramp and portion of D Street, repaving	A. DeStefano & Sons, Inc. .	Nov. 27, 1929
219	D Street storehouse, cement plaster surfacing on walls.	Maurice M. Devine . . .	Nov. 27, 1929
220	Commonwealth Pier 5, indicator posts and gate valves on water pipes.	M. DeSisto Company . .	Nov. 27, 1929

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1929

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929	Estimated Amount of Contract
Completed July 1, 1929	For furnishing and placing riprap \$2.40 for each ton of riprap furnished in place.	\$2,886 82	\$2,886 82	\$2,880 00
Completed Oct. 28, 1929	For furnishing all materials and building main creosoted bulkhead, \$16 per linear foot of completed bulkhead in place.	40,948 66	40,948 66	47,050 00
	For furnishing all materials and building creosoted timber spur jetties, \$8 per linear foot of completed jetty in place.			
	For filling, \$2.70 per cubic yard of material measured in place.			
Completed Sept. 24, 1929	For dredging 51 cents per cubic yard, scow measurement.	26,035 88	26,035 88	26,540 00
In progress	For removing boulders \$20 per cubic yard.			
	For dredging channels, 40 cents per cubic yard measured in situ.	41,582 30	41,582 30	113,418 00
	For dredging flats, 49 cents per cubic yard measured in situ.			
	For removing and disposing of boulders, \$18 per cubic yard.			
Completed Nov. 27, 1929	For dredging, 65 cents per cubic yard, scow measurement.	8,789 72	8,789 72	9,115 00
	For removing and disposing of boulders, \$15 per cubic yard.			
In progress	Unit prices	794 47	794 47	2,277 00
In progress	For dredging channel and disposing of dredged material, 49 cents per cubic yard, scow measurement.	14,876 55	14,876 55	40,200 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Nov. 20, 1929	Items 1-5. Unit prices. (New foundations, etc.)	15,649 72	15,649 72	16,826 55
	Item 6. For moving each hangar \$2,800 for each one moved and erected complete in new foundations.			
	Item 7. For moving complete three small buildings to new location, \$2,000 for the three buildings in place.			
In progress	For making and installing wooden bridges over railroad tracks in track pit, \$249 each.	1,015 92	1,015 92	1,992 00
Completed Nov. 12, 1929	Lump sum of \$590	501 50	501 50	590 00
Completed Nov. 20, 1929	Lump sum of \$9,500	8,075 00	8,075 00	9,500 00
Not yet begun	For furnishing materials and building wire fence, \$1.55 for each linear foot.	-	-	5,087 10
	For furnishing materials and building wire spur jetties, \$1.55 for each linear foot.			
Not yet begun	For furnishing and placing stone riprap and chips in jetty, \$6.15 for each ton of 2,000 pounds.	-	-	22,140 00
Not yet begun	For furnishing, driving, fitting and securing fender piles on sides and end of pier, \$72 each.	-	-	758 00
	For furnishing, driving, fitting and securing new foundation piles, \$74 each.	-	-	758 00
	For furnishing and placing screw bolts, drift bolts, iron bands and fitting, 15 cents per pound.			
	For furnishing, fitting and securing yellow pine lumber in fender cap and platforms \$148 for 1,500 ft. B. M.			
Not yet begun	\$15 for each cubic yard of concrete in place in completed work.	-	-	525 00
Not yet begun	For installation of toilet room, complete, \$2,300.	-	-	3,465 00
	For furnishing and laying 2-inch water and 4-inch sewer pipes, including excavation, back fill and all incidental work, \$675.			
	For removal of boiler, \$150.			
	For each 1,000 ft. B. M. of lumber furnished and erected in storage platform, \$85.			
Not yet begun	Unit prices	-	-	4,340 00
Not yet begun	Unit prices	-	-	12,787 25
Not yet begun	For furnishing and placing cement plaster surfacing ½ inch thick on tile wall, \$2.25 per square yard measured in place in the completed work.	-	-	945 00
Not yet begun	For furnishing and installing complete, gate valves, indicator posts, offset line and wheel guards, including all incidental work, the lump sum of \$1,050.	-	-	1,050 00

CONTRACTS COMPLETED IN 1928 UNDER WHICH

CON-TRACT No.	Work	Contractor	Date
159	Commonwealth Pier No. 1, East Boston, repairing timber platforms.	W. A. Norton	Oct. 26, 1927
173	Commonwealth Pier No. 5, South Boston, repairing plaster walls.	Cement Gun Company . .	Aug. 7, 1928
177	Castle Island, South Boston, repairs to sea wall.	Bay State Dredging and Contracting Company.	Sept. 18, 1928
178	Allen's Harbor, Harwich, timber fence and riprap.	George W. Starbuck	Sept. 18, 1928
179	Gun Rock Point, Hull, repairs to breakwater.	Bay State Dredging and Contracting Company .	Sept. 25, 1928
181	Connecticut River, Hadley, earth dike .	Kelleher Corporation . .	Oct. 2, 1928
185	Rock Harbor, Eastham and Orleans, dredging.	Bay State Dredging and Contracting Company.	Oct. 23, 1928

FINAL PAYMENTS WERE MADE IN 1929

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929	Estimated Cost
Completed Dec. 20, 1927	Unit prices	\$678 12	\$2,336 84	\$2,263 00
Completed Oct. 23, 1928	Unit prices	1,442 31	9,615 37	8,918 20
Completed Oct. 27, 1928	Unit prices	837 74	5,584 91	5,385 00
Completed Oct. 30, 1928	For furnishing materials and labor to build timber fence, \$5.73 for each linear foot of completed fence.	315 62	2,104 10	1,978 00
	For furnishing and placing stone riprap, \$5.13 for each ton of 2,000 pounds.			
	For moving and depositing as riprap along the slope of the fill, 50 tons of stone chips, \$62.50.			
Completed Oct. 20, 1928	For furnishing and placing heavy stone riprap \$4.87 for each ton of 2,000 pounds in place in the completed work.	1,828 16	12,187 76	12,175 00
Completed Nov. 26, 1928	For furnishing materials and constructing dike, 84 cents per cubic yard measured in place in completed dike.	4,324 85	4,324 85	4,014 00
	For moving tobacco barn and shed and placing them on new foundations, the lump sum of \$150.			
Completed Nov. 22, 1928	For dredging channel and disposing of dredged material within area marked Disposal Area, 55 cents for each cubic yard measured in place.	1,084 46	7,229 75	7,500 00

LETTER CONTRACTS MADE BY THE DEPARTMENT

Contractor	Work
Barry, Frank H.	Scituate and North Scituate, sea wall repairs . . .
Barry, Frank H.	Brant Rock, Marshfield, sea wall repairs . . .
Barry Building Wrecking Co.	Fargo, D and E streets, South Boston, removing poles and wires.
Brooks, S. W. K.	Commonwealth Pier No. 5, repairing fender and chains.
Brooks, S. W. K.	Commonwealth Pier No. 5, repairing passenger gangways.
Byrne, Louis A.	Cotuit, removing damaged portions of timber bulkhead.
Byrne, Louis A.	Allen's Harbor, Harwich, repairing timber jetty . . .
Byrne, Louis A.	West Harwich, construction of wire fencing . . .
Davis, John A.	Waquoit Harbor, breakwater repairs . . .
DeStefano & Sons, Inc., A.	D and Cypher streets, South Boston, paving between tracks.
Dinn, P. J., & Company	Viaduct and ramp, South Boston, repairs to pipe rail fence.
Duffy, Owen W., & Company	Allen's Harbor, Harwich, timber fence and riprap . .
Duffy, Owen W., & Company	Allen's Harbor, Harwich, fencing, back fill and riprap .
Farquhar's Sons, Inc., J. J.	D Street Stores, South Boston, roof repairs . . .
Finney, John B.	Plymouth, furnishing and applying fertilizer . . .
General Fire Extinguisher Co.	D Street Stores, South Boston, repairing fire sprinklers.
General Fire Extinguisher Co.	Commonwealth Pier No. 5, South Boston, repairing fire sprinkler.
Grant, B. E., Co.	C and Cypher streets, South Boston, repairing tracks.
Hersey, A. A., & Sons Company	Commonwealth Pier No. 5, repairing timber platforms.
Helrich, Carl S.	Viaduct and ramp, South Boston, repairing fence . .
Nicoll, George W., Co.	D Street Stores, South Boston, removing partitions . .
N. Y., N. H. & H. R. R. Co.	D and Cypher streets, South Boston, changes in railroad tracks.
Pierce & Cox	Commonwealth Pier No. 5, repairs to heating system .
Russo, P. F., Co., Inc.	Commonwealth Pier No. 5, furnishing and installing two lavatories.
Standard Steel and Iron Works	Commonwealth Pier No. 5, installing new ladders and repairing existing iron ladders
Starbuck, George W.	Nobscusset Harbor, Dennis, timber fence and ripraps.
Starbuck, George W.	State Pier, Plymouth, repairs to deck . . .
Starbuck, George W.	Falmouth Heights, sea wall repairs . . .
Starbuck, George W.	Provincetown, construction of wire fencing . . .
Wall, Thomas F.	Commonwealth Pier No. 5, repairing Kinnear and Ogden doors.
Welch, J., and Son	Commonwealth Pier No. 5, repairing boiler settings .
White, Antonio	Oak Bluffs, placing filling back of bulkhead . . .
Worthington Pump & Machinery Corp.	Commonwealth Pier No. 5, repairing vacuum pump .

LETTER CONTRACTS COMPLETED IN 1928 UNDER WHICH

Contractor	Work
Hauserman, E. F., Co.	Commonwealth Pier No. 5, furnishing and erecting steel office partition (Registry of Motor Vehicles).
Massachusetts Cornice Co.	Commonwealth Pier No. 5, repairing copper skylights.

OF PUBLIC WORKS IN FORCE DURING THE YEAR ENDING NOV. 30, 1929

Date	Condition of Work	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929
Oct. 9, 1929	In progress	\$439 92	\$439 92
April 23, 1929	Completed June 12, 1929	971 37	971 37
Nov. 16, 1929	Completed Nov. 22, 1929	150 00	150 00
May 27, 1929	Completed June 4, 1929	50 00	50 00
Dec. 5, 1928	Completed Jan. 15, 1929	786 10	786 10
Sept. 14, 1929	Completed Oct. 20, 1929	245 65	245 65
Mar. 1, 1929	Completed March 19, 1929	26 04	26 04
{ Nov. 20, 1928 }	{ Completed Dec. 8, 1928 }	{ 569 80 }	
{ Jan. 16, 1929 }	{ Completed Jan. 19, 1929 }	{ 146 50 }	1,009 30
{ Aug. 27, 1929 }	{ Completed Sept. 10, 1929 }	{ 293 00 }	
Nov. 2, 1928	Completed Dec. 7, 1928	191 10	1,274 00
Aug. 28, 1929	Completed Sept. 19, 1929	171 82	171 82
Sept. 17, 1929	Completed Sept. 28, 1929	60 00	60 00
Aug. 2, 1929	Completed Sept. 17, 1929	1,229 70	1,229 70
Aug. 20, 1929	Completed Sept. 17, 1929	1,109 20	1,109 20
Aug. 1, 1929	In progress	1,476 76	1,476 76
Mar. 21, 1929	Completed April 10, 1929	275 00	275 00
Oct. 9, 1929	Completed Oct. 12, 1929	—	—
Oct. 1, 1929	Completed Oct. 12, 1929	—	—
{ June 8, 1929 }	{ Completed Aug. 20, 1929 }	351 05	351 05
{ Aug. 29, 1929 }			
Mar. 8, 1929	Completed April 3, 1929	98 6	98 00
Oct. 1, 1929	Completed Oct. 31, 1929	50 00	50 00
Aug. 21, 1929	Completed Aug. 29, 1929	320 00	320 00
Aug. 28, 1929	Completed Sept. 3, 1929	1,273 20	1,273 20
Oct. 1, 1929	In progress	—	—
Nov. 27, 1929	In progress	—	—
{ Dec. 19, 1928 }	{ Completed Jan. 21, 1929 }	178 90	
{ Feb. 27, 1929 }	{ Completed March 4, 1929 }	32 00	210 90
June 18, 1929	Completed July 27, 1929	1,353 38	1,353 38
June 3, 1929	Completed July 5, 1929	929 48	929 48
Mar. 27, 1929	Completed April 10, 1929	254 00	254 00
Dec. 10, 1928	Completed Jan. 4, 1929	149 76	149 76
Aug. 21, 1929	In progress	—	—
Aug. 29, 1929	Completed Sept. 28, 1929	547 80	547 80
Nov. 22, 1929	In progress	—	—
July 30, 1929	Completed Aug. 29, 1929	237 50	237 50

FINAL PAYMENTS WERE MADE DURING 1929

Date	Condition of Work	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929
Sept. 10, 1928	Completed Nov. 28, 1928	\$50 70	\$338 00
Nov. 2, 1928	Completed Nov. 22, 1928	111 07	740 55

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